

Road Rules, 2011

[90 day Notice Published December 23, 2011]

Title 14 of the California Code of Regulations (14 CCR)

[NOTE: THIS VERSION CONTAINS ALL EDITS PROPOSED BY COMMENTERS AND IS INTENDED TO GUIDE FOREST PRACTICE COMMITTEE MEETING PARTICIPANTS IN THEIR REVIEW OF ALL PROSPECTIVE REVISIONS UNDER CONSIDERATION.]

Amend:

§ 895.1 Definitions

§ 914.7 [934.7, 954.7] Timber Operations, Winter Period

§ 914.8 [934.8, 954.8] Tractor Road Watercourse Crossing

§ 915.1 [934.8, 954.8] Use of Heavy Equipment for Site Preparation

§ 916.3 [936.3, 956.3] General Limitations Near Watercourses, Lakes,
Marshes, Meadows and Other Wet Areas

§ 916.4 [936.4, 956.4] Watercourse and Lake Protection

§ 916.9 [936.9, 956.9] Protection and Restoration of the Beneficial
Functions of the Riparian Zone in Watersheds with
Listed Anadromous Salmonids

§ 918.3 [938.3, 958.3] Roads to be Kept Passable

Article 12 [Article 11. Northern] Logging Roads and Landings

§ 923 [943, 963] Logging Roads and Landings

§ 923.1 [943.1, 963.1] Planning for Roads and Landings

§ 923.2 [943.2, 963.2] Road Construction

§ 923.3 [943.3, 963.3] Watercourse Crossings

§ 923.4 [943.4, 963.4] Road Maintenance

§ 923.5 [943.5, 963.5] Landing Construction

§ 923.6 [943.6, 963.6] Conduct of Operations on Roads and Landings

1 § 923.7 [943.7, 963.7] Licensed Timber Operator Responsibility for
2 Roads and Landings
3 § 923.8 [943.8, 963.8] Planned Abandonment of Roads, Watercourse
4 Crossings, and Landings
5 § 923.9 [943.9, 963.9] Roads and Landings in Watersheds with Listed
6 Anadromous Salmonids
7 § 923.9.1 [943.9.1] Measures for Roads and Landings in Watersheds with
8 Coho Salmon
9 § 1034 Contents of Plan
10 § 1051.1 Contents of Modified THP
11 § 1090.5 Contents of NTMP
12 § 1090.7 Notice of Timber Operations Content
13 § 1092.09 PTHP Contents
14 § 1093.2 Contents of Road Management Plan
15 § 1104.1 Conversion Exemptions
16
17 **Adopt:**
18 § 923.10 [943.10, 963.10] Planning for Logging Road Watercourse
19 Crossings
20 § 923.11 [943.11, 963.11] Logging Road Watercourse Crossing Design and
21 Implementation
22 § 923.12 [943.12, 963.12] Logging Road Watercourse Crossing Mapping
23 and Identification
24 § 923.13 [943.13, 963.13] Logging Road Watercourse Crossing
25 Construction and Reconstruction
§ 923.14 [943.14, 963.14] Logging Road Watercourse Erosion Control

§ 923.15 [943.15, 963.15] Logging Road Watercourse Crossing Use

§ 923.16 [943.16, 963.16] Logging Road Watercourse Crossing

Maintenance and Monitoring

§ 923.17 [943.17, 963.17] Logging Road Watercourse Crossing Removal

Note: Proposed new or relocated text in underscore. Deleted existing text in ~~strikeout~~

Amend 14 CCR § 895.1. Definitions.

Abandoned Road means a logging road on which proactive measures have been applied to effectively remove it from the permanent road network.

Abandonment means ~~leaving a logging road reasonably impassable to standard production four wheel drive highway vehicles, and leaving a logging road and landings, in a condition which provides for long term functioning of erosion controls with little or no continuing maintenance.~~ implementing measures to effectively remove an existing logging road, landing, or logging road watercourse crossing from the permanent road network.

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Appurtenant Road means a logging road under the ownership or control of the timber owner, timberland owner, timber operator, or plan submitter that will be used for timber operations (including log hauling).

Deleted: and that is between the plan area and the first public road to be used for log hauling

1
2 OPTION 2: Appurtenant Road means a logging road under the ownership or
3 control of the timber owner, timberland owner, timber operator, or
4 plan submitter that will be used for log hauling and that is between
5 the ~~plan area~~ harvest area and the first public road to be used for
6 log hauling.

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7
8 **Berm** means ~~a curb or dike constructed to control water and prevent~~
9 ~~roadway runoff waters from discharging onto roadside slopes and/or to~~
10 ~~provide material for subsequent road maintenance.~~ a curb, dike, or
11 linear mound of earth that is constructed to control water and direct
12 roadway runoff waters or that has developed through road grading
13 activities.

14
15 Connected Headwall Swale means a geomorphic feature consisting of a bowl-
16 shaped, ~~often in the shape of an inverted teardrop~~, concave depression with
17 convergent slopes, typically of 65 percent or greater steepness that is
18 connected to a watercourse or lake by way of a continuous linear depression
19 and that has been sculpted over geologic time by shallow landslide events.
20 The slope profile is typically smooth and unbroken by benches, but may be
21 interrupted by recent landslide deposits or scars. Emergent groundwater and
22 wet areas may exist at the base of the swale. Soil and colluvium depth is
23 typically greatest at the axis of the swale, thinning to either side.

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space between Latin and Asian text,
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24
25 **Critical Dip** means a constructed dip or low point across a logging
road surface immediately down grade from, or over, a logging road

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1 watercourse crossing that functions to minimize fill erosion and erosion
2 of logging road surfaces from overtopping of drainage structures. The intent
3 of a critical dip is to transport water as quickly as possible over
4 the road and back into its watercourse should the crossing plug.

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overflow from draining down
the road

6 **Crowning** means creating a road surface with a convex cross sectional
7 profile that drains runoff toward both sides of the road.

9 **Deactivated Road** means a logging road that is part of the permanent
10 road network where measures have been implemented to prevent active
11 use by logging trucks and standard production four-wheel-drive highway
12 vehicles.

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14 **Deactivation** means implementing measures necessary to prevent the
15 active use of an existing logging road, landing, or logging road
16 watercourse crossing.

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20 **Excess Material** means excavated material that is not used ~~or needed~~ as
21 a functional part of the road or ~~a~~ landing. Excess material is
22 synonymous with spoils.

Deleted: End-Hauling means
the removal and
transportation of ~~excavated~~
~~excess excavated material to~~
~~prevent sidecast to a~~
~~designated storage area.~~

24 **Extended Wet Weather Period** means the period from October 15 to May 1.

1 **Fill** means material that is mechanically placed ~~in low areas~~ and built
2 up in compacted lifts to form a ~~the~~ roadbed or landing surface. Fill
3 includes the material placed around culverts and related drainage
4 structures at logging road watercourse crossings.

6 **Ford** means a logging road watercourse crossing where the road grade
7 dips through the watercourse channel, thus directing flow across the road
8 surface, through the road surface, or both.

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11 **Harvest Area** means the area where trees are felled and removed.

13 STAFF NOTE: THE FOLLOWING AMENDED EXISTING DEFINITION WAS NOT INCLUDED
14 IN PREVIOUSLY NOTICED RULEMAKING PROPOSAL. Hydrologic Disconnection means
15 the removal of direct routes of ~~drainage or overland flow of~~ sediment
16 delivery and concentration of flow from road runoff to a watercourse or lake
17 by directing drainage or overland flow onto ~~stable portions of the forest~~
18 ~~floor to~~ an effective filter strip that dissipates energy, facilitates
19 percolation, and resists or prevents erosion or channelization.

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21 **Insloping** means shaping the road surface to drain toward a cutbank or
22 inside ditch.

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24 **Outsloping** means shaping the road surface to drain toward the outside
25 edge of the logging road or landing.

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1 **Permanent Road** means ~~a road which is planned and constructed to be~~
2 ~~part of a permanent all season transportation facility. These roads~~
3 ~~have a surface which is suitable for the hauling of forest products~~
4 ~~throughout the entire winter period and have drainage structures, if~~
5 ~~any, at watercourse crossings which will accommodate the fifty year~~
6 ~~flood flow. Normally they are maintained during the winter period. a~~
7 ~~logging road that is part of the permanent road network and is~~
8 designed for year-round use. These roads have a road surface that is
9 suitable for maintaining a stable operating surface throughout the year and
10 properly functioning drainage structures.

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constructed, and maintained

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11
12 **Permanent Road Network** means the permanent, seasonal, ~~and temporary,~~
13 ~~and deactivated roads, including appurtenant roads,~~ that provide the
14 infrastructure necessary for timber operations and forest management.

15
16 **Permanent Watercourse Crossing** means a watercourse crossing that ~~will~~
17 ~~be constructed to accommodate the estimated fifty year flood flow and~~
18 will remain in place when timber operations have been completed.

19
20 **Prescribed Maintenance Period** means the time period, beginning with
21 filing of the work completion report, provided that the report is
22 subsequently approved, during which erosion controls ~~which~~ that are
23 required and constructed as part of ~~a~~ timber operations must be
24 maintained in a functional condition. ~~The period shall not exceed~~
25 ~~three years from the filing of the work completion report provided~~
~~that the report is subsequently approved by the director.~~

1
2 **Public Road** means a road open to the general public which is: (a)
3 under Federal, State, ~~or~~ County, or City ownership, or (b) a road on
4 which a public agency has deeded, unlimited easement.

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5
6 **Road approach** means the portion of the hydrologically connected
7 logging road surface that drains overland water flow to the logging
8 road watercourse crossing.

Deleted: Road approaches begin/end at the nearest functional drainage structure/facility or the first high point on the road where road surface overland water flow drains away from the watercourse crossings. Crossings often have two road approaches.

9 OPTION 2: Road approach means that portion of the logging road surface
10 that drains overland water flow to the watercourse crossing. Road
11 approaches begin/end at the nearest functional drainage
12 structure/facility or the ~~first high point~~ first hydrologic divide on
13 the road where road surface overland water flow drains away from the
14 watercourse crossings. Crossings often have two road approaches.

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16 **Road Maintenance** means routine or annual maintenance or rehabilitation,
17 which does not require substantial change in the original prism of the road
18 to maintain stable operating surfaces, functioning logging road
19 drainage facilities and structures, and stable cutbanks and fill
20 slopes.

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Deleted: activities involving manipulation of the logging road prism

21
22 **Road Prism** means all parts of a road including cut banks, ditches,
23 road surfaces, road shoulders, and road fills.

Deleted: Examples of road maintenance include shaping and/or rocking a road surface; outslowing; installation and maintenance of rolling and critical dips; restoring functional capacity of inboard ditches, cross drains, or culverts; and repairing water bars.

24
25 **Seasonal Road** means a ~~road which is planned and constructed as part of~~
~~a permanent transportation facility where: 1) commercial hauling may~~

1 ~~be discontinued during the winter period, or 2) the landowner desires~~
2 ~~continuation of access for fire control, forest management activities,~~
3 ~~Christmas tree growing, or for occasional or incidental use for~~
4 ~~harvesting of minor forest products, or similar activities. These~~
5 ~~roads have a surface adequate for hauling of forest products in the~~
6 ~~non winter periods, and in the extended dry periods or hard frozen~~
7 ~~conditions occurring during the winter period; and have drainage~~
8 ~~structures, if any, at watercourse crossing which will accommodate the~~
9 ~~fifty year flood flow. Some maintenance usually is required logging~~
10 road that is part of the permanent road network that is not designed for
11 year-round use. These roads have a road surface that is suitable for
12 maintaining a stable operating surface during the season of use and properly
13 functioning drainage structures.

14 OPTION 2: Seasonal Road means a logging road that is part of the
15 permanent road network and generally consists of native soils and
16 where use is generally discontinued during the winter period.

17 OPTION 3: Seasonal Road means a logging road that is part of the
18 permanent road network where use ~~is generally~~ may be discontinued
19 during the winter period.

21 **Sidecast** means excess earthen material pushed or dumped ~~to or~~ over the
22 side of a roads or landings.

24 **Significant sediment discharge** means soil erosion that is currently,
25 or may be in the future, discharged to watercourses or lakes in
quantities that violate Water Quality Requirements, result in

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during the winter period

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significant individual or cumulative adverse impacts to the beneficial uses of water, or cause a visible increase in turbidity to receiving Class I, II, III, or IV waters. [One commenter suggests striking entire definition.]

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Significant existing or potential erosion site means a location where soil erosion is currently, or may be in the future, discharged to watercourses or lakes in quantities that violate Water Quality Requirements or result in significant individual or cumulative adverse impacts to the beneficial uses of water.

Deleted: A site that is eroding but is not delivering, or does not have the potential to deliver sediment to a water body, is not a significant existing or potential erosion site.

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OPTION 2: ...A site that is eroding but is not delivering, and does not have the potential to deliver sediment to a water body, is not a significant existing or potential erosion site.

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OPTION 3: ...A site that is eroding but ~~is not delivering, or does not have the potential to deliver sediment to a water body, is not a significant existing or potential erosion site.~~

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Temporary Road means a logging road that is to be used only during the timber operations and that will be deactivated or abandoned upon completion of use. These roads generally consist of native soils and are unrocked. ~~These roads have a surface adequate for seasonal logging use and have drainage structures, if any, adequate to carry the anticipated flow of water during the period of use.~~

Deleted: **Through Cut** means a section of road that lies below the adjacent ground level on both sides of the road.

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1 Through Fill means a section of road upon constructed fill through a
2 swale, depression, or watercourse that lies above the adjacent ground
3 level on both sides of the road.

6 Amend 14 CCR § 914.6 [934.6, 954.6]. Waterbreaks [All Districts, with
7 variation] STAFF NOTE: THIS RULE SECTION WAS NOT INCLUDED IN
8 PREVIOUSLY NOTICED RULEMAKING PROPOSAL.

9 (b) Waterbreaks shall be constructed concurrently with the
10 construction of firebreaks and immediately upon conclusion of use of
11 tractor roads and layouts, which do not have permanent and adequate
12 drainage facilities, or drainage structures.

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Deleted: and landings

14 Amend 14 CCR § 914.7 [934.7, 954.7]. Timber Operations, Winter
15 Period.

16 During the winter period:

17 (a) Mechanical site preparation and timber harvesting, shall not be
18 conducted unless a winter period operating plan is incorporated in the
19 timber harvesting plan and is followed, or unless the requirements of
20 subsection (c) are met. Full suspension cable, helicopter and balloon
21 yarding methods are exempted.

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22 (b) The winter period operating plan shall include the specific
23 measures to be taken in winter timber operations to avoid or mitigate
24 damage due to erosion, soil movement into watercourses and soil
25 compaction from felling, yarding, loading, mechanical site
preparation, and erosion control activities. A winter period operating

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plan shall address the following subjects:

- (1) Erosion hazard rating.
- (2) Mechanical site preparation methods.
- (3) Yarding system (constructed skid trails).
- (4) Operating Period.
- (5) Erosion control facilities timing.
- (6) Consideration of form of precipitation-rain or snow.
- (7) Ground conditions (soil moisture condition, frozen).
- (8) Silvicultural system-ground cover.
- (9) Operations within the WLPZ.
- (10) Equipment use limitations.
- (11) Known unstable areas (which must be identified by a certified engineering geologist).
- (12) Logging roads and landings.

(c) In lieu of a winter period operating plan, the RPF can specify the following measures in the THP:

(1) Tractor yarding or the use of tractors for constructing layouts, firebreaks or other tractor roads shall be done only during dry, rainless periods and shall not be conducted on saturated soils conditions that may produce sediment in quantities that violate Water Quality Requirements. Soils disturbed by tractor yarding shall be treated to prevent significant discharge. ~~sediment in quantities sufficient to cause a visible increase in turbidity of downstream waters in receiving Class I, II, III or IV waters or that violate Water Quality Requirements.~~

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1 (d) The RPF shall oversee implementation of protective measures
2 described in the Winter Operating Plan that are intended to prevent
3 significant discharge.

4
5 **Amend § 914.8 [934.8, 954.8] Tractor Road Watercourse Crossing**

6 (d) ~~Tractor road~~ ~~W~~watercourse crossing facilities ~~not constructed to~~
7 ~~permanent crossing standards on tractor roads~~ shall be removed and
8 stabilized before the beginning of the winter period. ~~If a~~
9 ~~watercourse crossing is to be removed, it shall be removed in~~
10 ~~accordance with~~ to the standards of 14 CCR § 923.3(d) [943.3(d),
11 ~~963.3(d)] 923.17 [943.17, 963.17], subsections (a)-(c) .~~ The RPF may
12 propose an exception if explained and justified in the plan and found
13 by the Director to be in conformance with this article.

14
15 **Amend 14 CCR § 915.1 [935.1, 955.1]. Use of Heavy Equipment for Site**
16 **Preparation.**

17 (a) Use of heavy equipment for site preparation shall comply with
18 the provisions set forth in 14 CCR 914.2 [934.2, 954.2].

19 (b) Heavy equipment shall not be used for site preparation under
20 saturated soil conditions that may produce sediment in quantities that
21 violate Water Quality Requirements, ~~sediment in quantities sufficient to~~
22 ~~cause a visible increase in turbidity of downstream waters in~~
23 ~~receiving Class I, II, III or IV waters; that violate Water Quality~~
24 ~~Requirements; or when it cannot operate under its own power due to wet~~
25 conditions.

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discharge

**Amend § 916.3 [936.3, 956.3]. General Limitations Near Watercourses,
Lakes, Marshes, Meadows and Other Wet Areas**

(c) The timber operator shall not ~~construct or reconstruct roads,~~
construct or use tractor roads ~~or landings~~ in Class I, II, III or IV
watercourses, in the WLPZ, marshes, wet meadows, and other wet areas
unless when explained and justified in the ~~THP~~ plan by the RPF, and
approved by the Director, except as follows:

(1) At prepared tractor road crossings as described in 14 CCR §
914.8(b) [934.8(b), 954.8(b)].

(2) Crossings of Class III watercourses ~~which~~ that are dry at
the time of ~~timber operations~~ use.

~~(3) At existing road crossings.~~

~~(4)~~(3) At new tractor ~~and~~ road crossings approved as part of
the Fish and Game Code process (F&GC 1600 et seq.).

~~Use of existing roads is addressed in 916.4(a) [936.4(a),~~
~~956.4(a)].~~

Amend 916.4 [936.4, 956.4]. Watercourse and Lake Protection.

(a) The RPF or supervised designee shall conduct a field
examination of all lakes and watercourses and shall map all lakes and
watercourses which contain or transport to Class I, II, III or IV
waters.

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(1) As part of this field examination, the RPF or
supervised designee shall evaluate areas near, and areas with the
potential to directly impact, watercourses and lakes for sensitive
conditions including, but not limited to, existing and proposed

1 ~~roads, existing and proposed roads, skidtrails and landings and~~
2 ~~landings~~, unstable and erodible watercourse banks, unstable upslope
3 areas, debris, jam potential, inadequate flow capacity, changeable
4 channels, overflow channels, flood prone areas, and riparian zones
5 wherein the values set forth in 14 CCR §§ 916.4 ~~(b)-(b)~~ [936.4 ~~(b)-(b)~~,
6 956.4 ~~(b)-(b)~~], are impaired. *****

Deleted: ,subsection(b)

7
8 **Amend § 916.9 [936.9, 956.9]. Protection and Restoration of the**
9 **Beneficial Functions of the Riparian Zone in Watersheds with Listed**
10 **Anadromous Salmonids.**

11 In addition to all other district Forest Practice Rules, the
12 following requirements shall apply in any watershed with listed
13 anadromous salmonids. Requirements of 14 CCR § 916.9 [936.9, 956.9]
14 precede other sections of the FPRs.

15 **Geographic scope** - Requirements for watersheds with listed
16 anadromous salmonids differ depending on the geographic location of
17 the watershed and geomorphic characteristics of the watercourse.
18 Unique requirements for watersheds with listed anadromous salmonids
19 are set forth for 1) watercourses in the coastal anadromy zone with
20 confined channels, 2) watercourses with flood prone areas or channel
21 migration zones, and 3) watercourses with confined channels located
22 outside the coastal anadromy zone.

23 Watersheds which do not meet the definition of "watersheds with
24 listed anadromous salmonids" are not subject to this section except as
25 follows: The provisions of 14 CCR 916.9 [936.9, 956.9], subsections
(k)-(q), ~~923.3 [943, 963] and 923.9 [943.9, 963.9]~~ also apply to

1 planning watersheds immediately upstream of, and contiguous to, any
2 watershed with listed anadromous salmonids for purposes of reducing
3 significant adverse impacts from transported fine sediment. Projects
4 in other watersheds further upstream that flow into watersheds with
5 listed anadromous salmonids, not otherwise designated above, may be
6 subject to these provisions based on an assessment consistent with
7 cumulative impacts assessment requirements in 14 CCR §§ 898 and 912.9
8 [932.9, 952.9] and Technical Rule Addendum No. 2, Cumulative Impacts
9 Assessment. These requirements do not apply to upstream watersheds
10 where permanent dams attenuate the transport of fine sediment to
11 downstream watercourses with listed anadromous salmonids.*****

12 *******(f) Class I watercourses -**

13 (1) For Class I watercourses, where fish are always or seasonally
14 present or where fish habitat is restorable, any plan involving timber
15 operations within the WLPZ shall contain the following information:

16 (A) Clear and enforceable specifications of timber
17 operations within the Class I WLPZ, including a description of how any
18 disturbance, or log or tree cutting and removal shall be carried out
19 to conform with 14 CCR §§ 916.2 [936.2, 956.2], subsection (a) and
20 916.9 [936.9, 956.9], subsection (a).

21 ~~(B) A description of all existing permanent logging road~~
22 ~~watercourse crossings.~~

23 ~~(C) Clear and enforceable specifications describing how~~
24 ~~these crossings are to be modified, used, and treated to minimize~~
25 ~~risks, giving special attention to allowing fish to pass both upstream~~
~~and downstream during all life stages.~~

1 ~~(D) Clear and enforceable specifications for construction~~
2 ~~and operation of any new crossing(s) of a Class I watercourse to~~
3 ~~prevent direct harm, habitat degradation, water velocity increase,~~
4 ~~hindrance of fish passage, or other potential impairment of beneficial~~
5 ~~uses of water~~

6 **(EB)** Documentation of how proposed harvesting in the WLPZ
7 contributes to the objectives of each zone stated in 14 CCR § 916.9
8 [936.9, 956.9], subsection (c) and other goals in 14 CCR § 916.9
9 [936.9, 956.9], subsection (a) (1)-(8). Documentation shall include
10 the examinations, analysis, and other requirements listed in 14 CCR §
11 916.4 [936.4, 956.4], subsection (a).*****

12 ***** **(3) Class I watercourses with flood prone areas or channel**
13 **migration zones:*******

14 ***** **(E) Preferred Management Practices in the Inner Zone A**
15 **and B of Flood Prone Areas*******

16 - ~~**4. Avoid Road and Landing Use:** All new roads and~~
17 ~~landings shall be located outside of zone. When feasible, minimize~~
18 ~~use of existing roads and landings in the flood prone area. No~~
19 ~~servicing of equipment within the flood prone area. Exceptions~~
20 ~~include the use of roads and landings to accomplish actions to~~
21 ~~improved salmonid habitat conditions stated 14 CCR § 916.9 [936.9,~~
22 ~~956.9]. subsection (f)(3)(E(1.) above.~~

23 **5.4. Avoid Slash concentration and site**
24 **preparation:******* or pile burning.

25 **6.5. Delineate Zone on the Ground:******* Locations
of all WLPZ zones and CMZs shall be designated on the ground.

1 **7-6. Avoid Use of Water Drafting Sites:******* or
2 stream alteration permits.

3 **8-7. Avoid Disturbance to Critical Flood Prone**
4 **Area Habitat::******* and down large woody debris.

5 **(F) Outer Zone:*******

6 ******* (k) Year-round logging road, landing and tractor road use**
7 **limitations.**

8 **(1) Logging roads, landings or Tractor roads** shall not be
9 used when operations may result in deposition of sediment in quantities
10 that violate Water Quality Requirements, ~~visibly turbid water from the~~

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discharge

11 ~~road, landing or tractor road (skid trail) or an inside ditch~~
12 ~~associated with the logging road, landing or tractor road may produce~~
13 ~~sediment in quantities sufficient to cause a visible increase in~~
14 ~~turbidity of downstream waters in receiving Class I, II, III or IV~~
15 ~~waters or violate Water Quality Requirements.~~

16 ~~**(2) Log hauling on logging roads and landings shall be limited**~~
17 ~~to those which are hydrologically disconnected from watercourses to~~
18 ~~the extent feasible, and exhibit a stable operating surface in~~
19 ~~conformance with (1) above.~~

20 ~~**(3) Concurrent with use for log hauling, approaches to logging**~~
21 ~~road watercourse crossings shall be treated for erosion control as~~
22 ~~needed to minimize soil erosion and sediment transport and to prevent~~
23 ~~the discharge of sediment into watercourses and lakes in quantities~~
24 ~~deleterious to the beneficial uses of water.~~

25 ~~**(4) Concurrent with use for log hauling, all traveled surfaces**~~
~~of logging roads in a WLPZ or within any ELZ or EEZ designated for~~

1 ~~watercourse or lake protection shall be treated for erosion control as~~
2 ~~needed to minimize soil erosion and sediment transport and to prevent~~
3 ~~the discharge of sediment into watercourses and lakes in quantities~~
4 ~~deleterious to the beneficial uses of water.~~

5 ~~5) Grading to obtain a drier running surface more than one time~~
6 ~~before reincorporation of any resulting berms back into the road~~
7 ~~surface is prohibited.~~

8
9 ~~(1) Extended Wet Weather Period - October 15 to May 1 shall be~~
10 ~~considered the extended wet weather period and the~~The following shall
11 ~~apply during the extended wet weather period:~~

12 (1) No timber operations shall take place unless the approved
13 plan incorporates a complete winter period operating plan pursuant to
14 14 CCR § 914.7 [934.7, 954.7], subsection (b) that specifically
15 addresses, where applicable, proposed logging road, landing or logging
16 ~~road, landing or~~ tractor road construction, reconstruction and use
17 ~~during the extended wet weather period. Where logging road watercourse~~
18 ~~crossing construction or reconstruction is proposed an implementation~~
19 ~~schedule shall be specified.~~

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20 (2) Unless the winter period operating plan proposes operations
21 during an extended wet weather period with low antecedent soil wetness,
22 no tractor roads shall be constructed, reconstructed, or used on slopes
23 that are over 40 percent and within 200 feet of a Class I, II, or III
24 watercourse, as measured from the watercourse or lake transition line
25 ~~during the extended wet weather period.~~

1 ~~(3) Logging roads, landings and tractor roads shall not be used~~
2 ~~when sediment from the logging road, landing or tractor road surface~~
3 ~~is transported to a watercourse or a drainage facility that discharges~~
4 ~~into a watercourse in amounts sufficient to cause a visible increase~~
5 ~~in turbidity in Class I, II, III, or IV waters.~~

6 ~~(4) Logging roads and landings shall not be used for log hauling~~
7 ~~when saturated soil conditions result in the visible increase in~~
8 ~~turbidity specified in (3) above.*****~~

9
10 ***** (n) **Treatments to stabilize soils** - Within the WLPZ, and within
11 any ELZ or EEZ designated for watercourse or lake protection,
12 treatments to stabilize soils, minimize soil erosion, and prevent
13 deposition of sediment in quantities that violate Water Quality Requirements,
14 ~~the discharge of sediment into watercourses or lakes in amounts~~
15 ~~deleterious to aquatic species or the quality and beneficial uses of~~
16 ~~water, or that threaten to violate applicable water quality~~
17 ~~requirements~~, shall be described in the plan as follows.

18 (1)*****

19 *******(C)** Disturbed tractor road cut banks and fills between
20 the drainage facilities closest to the crossing, and*****

21 *******(2)** Soil stabilization treatment measures may include, but need
22 not be limited to, removal, armoring with rip-rap, replanting,
23 ~~mulching, rip rapping, grass~~ seeding, installing commercial erosion
24 control devices to manufacturer's specifications, or chemical soil
25 stabilizers.

 (3)*****

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discharge

*****~~(o)~~ [Cal Fire edit would restore this section] ~~Erosion site~~

~~identification and remedies~~-As part of the plan, the RPF shall:

(1) Identify sites in the logging area where erosion and sediment production oare ongoing during any period of the year and assess them to determine which sites pose significant risks to the beneficial uses water.

(2) Assess those sites identified in 14 CCR § 916.9 [936.9, 956.9], subsection (o)(1) to determine whether feasible remedies exist.

(3) For sites that pose significant risks to the beneficial uses of water and where feasible remedies exist, the plan shall propose appropriate treatment.

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*****~~(p)~~ Section reserved for future use. ~~Erosion control maintenance~~

~~period - The erosion control maintenance period on permanent and seasonal roads and associated landings that are not abandoned in accordance with 14 CCR § 923.8 [943.8, 963.8] shall be three years.~~

*****~~(r)~~ Section reserved for future use. ~~Water drafting - Water drafting for timber operations shall:~~

~~(1) Comply with Fish and Game Code Section 1600, et seq.~~

~~(A) Timber operations conducted under a Fish and Game Code Section 1600 master or long term agreement that includes water drafting may provide proof of such coverage for compliance with this paragraph.~~

~~(2) Describe the water drafting site conditions and proposed~~

1 ~~water drafting activity in the plan, including:~~

2 ~~(A) a general description of the conditions and proposed~~
3 ~~water drafting;~~

4 ~~(B) a map showing proposed water drafting locations;~~

5 ~~(C) the watercourse classification;~~

6 ~~(D) the drafting parameters including the months the site~~
7 ~~is proposed for use; estimated total volume needed per day; estimated~~
8 ~~maximum instantaneous drafting rate and filling time; and disclosure~~
9 ~~of other water drafting activities in the same watershed;~~

10 ~~(E) the estimated drainage area (acres) above the point~~
11 ~~of diversion;~~

12 ~~(F) the estimated unimpeded streamflow, pumping rate, and~~
13 ~~drafting duration;~~

14 ~~(G) a discussion of the effects on aquatic habitat~~
15 ~~downstream from the drafting site(s) of single pumping operations, or~~
16 ~~multiple pumping operations at the same location, and~~
17 ~~at other locations in the same watershed;~~

18 ~~(H) a discussion of proposed alternatives and measures to~~
19 ~~prevent adverse effects to fish and wildlife resources, such as~~
20 ~~reducing hose diameter; using gravity fed tanks instead of truck~~
21 ~~pumping; reducing the instantaneous or daily intake at one location;~~
22 ~~describing allowances for recharge time; using other dust palliatives;~~
23 ~~and drafting water at alternative sites; and~~

24 ~~(I) The methods that will be used to measure source~~
25 ~~streamflow prior to the water drafting operation and the conditions~~
~~that will trigger streamflow to be measured during the operation.~~

1 ~~(3) All water drafting for timber operations are subject to each~~
2 ~~requirement below unless the Department of Fish and Game modifies the~~
3 ~~requirement in the Lake or Streambed Alteration agreement that~~
4 ~~authorized the drafting operation, or unless otherwise specified~~
5 ~~below:~~

6 ~~(A) All intakes shall be screened to prevent impingement~~
7 ~~of juvenile fish against the screen. The following requirements apply~~
8 ~~to screens and water drafting on Class I waters:~~

9 ~~1. Openings in perforated plate or woven wire mesh~~
10 ~~screens shall not exceed 3/32 inches (2.38 millimeters). Slot~~
11 ~~openings in wedge wire screens shall not exceed 1/16 inches (1.75~~
12 ~~millimeters).~~

13 ~~2. The screen surface shall have at least 2.5 square~~
14 ~~feet of openings submerged in water.~~

15 ~~3. The drafting operator shall regularly inspect,~~
16 ~~clean, and maintain screens to ensure proper operation whenever water~~
17 ~~is drafted.~~

18 ~~4. The approach velocity (water moving through the~~
19 ~~screen) shall not exceed 0.33 feet/second.~~

20 ~~5. The diversion rate shall not exceed 350 gallons per~~
21 ~~minute.~~

22 ~~(B) Approaches and associated drainage features to~~
23 ~~drafting locations within a WLPZ or channel zone shall be surfaced~~
24 ~~with rock or other suitable material to minimize generation of~~
25 ~~sediment.~~

~~(C) Barriers to sediment transport, such as straw waddles,~~

1 ~~logs, straw bales or~~
2 ~~sediment fences, shall be installed outside the normal high water mark~~
3 ~~to prevent sediment delivery to the watercourse and limit truck~~
4 ~~encroachment.~~

5 ~~(D) Water drafting trucks parked on streambeds and~~
6 ~~floodplains shall use drip pans or other devices such as absorbent~~
7 ~~blankets, sheet barriers or other materials as needed to prevent soil~~
8 ~~and water contamination from motor oil or hydraulic fluid leaks.~~

9 ~~(E) Bypass flows for Class I watercourses shall be~~
10 ~~provided in volume sufficient to avoid dewatering the watercourse and~~
11 ~~maintain aquatic life downstream, and shall conform to the following~~
12 ~~standard:~~

13 ~~1. Bypass flows in the source stream during~~
14 ~~drafting shall be at least 2 cubic feet per second.~~

15 ~~2. Diversion rate shall not exceed 10 percent of the~~
16 ~~surface flow.~~

17 ~~3. Pool volume reduction shall not exceed 10 percent.~~

18 ~~(F) The drafting operator shall keep a log that records~~
19 ~~for each time water is drafted, the date, total pumping time, pump~~
20 ~~rate, starting time, ending time, and volume diverted. Logs shall be~~
21 ~~filed with the Department of Forestry and Fire Protection at the end~~
22 ~~of seasonal operations and maintained with the plan record. This~~
23 ~~requirement may be modified in the approved plan that covers the water~~
24 ~~drafting, but only with concurrence from the Department of Fish and~~
25 ~~Game.~~

~~(G) Before commencing any water drafting operation, the RPF~~

1 ~~and the drafting operator shall conduct a pre operations field review~~
2 ~~to discuss the water drafting measures in the plan and/or Lake or~~
3 ~~Streambed Alteration Agreement.*****~~

4 *******(v) Site-specific measures or nonstandard operational**
5 **provisions*******

6
7 **Amend** § 918.3 [938.3, 958.3]. ~~Roads to be Kept Passable~~
8 ~~Timber operators shall keep all logging truck roads in a passable~~
9 ~~condition during the dry season for fire truck travel until snag and~~
10 ~~slash disposal has been completed.~~

11
12 **Amend** Article 12. [Article 11. Northern] **Logging Roads, Landings, and**
13 **Logging Road Watercourse Crossings.** ~~Logging Roads and Landings~~

14
15 **Amend** § 923 [943,963]. **Intent for Logging Roads, Landings, and Logging**
16 **Road Watercourse Crossings** ~~Logging Roads and Landings.~~

17 **(a)** All logging roads, landings, and logging road watercourse
18 crossings in the logging area shall be planned, constructed,
19 reconstructed, used, maintained, **replaced**, removed, abandoned, and
20 deactivated in a manner that:

21 **(1)** Is consistent with long-term enhancement and maintenance of
22 the forest resource.

23 **(2)** Accommodates appropriate yarding systems.

24 **(3)** Is economically feasible.

25 **(b)** Such planning, construction, reconstruction, use, maintenance,
removal, abandonment, and deactivation shall occur in a manner that

1 avoids or substantially lessens significant adverse impacts to, among
2 other things:

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3 (1) Public safety.

4 (2) Listed species of fish and wildlife.

5 (3) Fish and wildlife habitat.

6 (4) Water quality and the beneficial uses of water.

7 (5) Soil resources.

8 (6) Significant archeological and historical sites.

9 (7) Air quality.

10 (8) Visual resources.

11 (9) Worker safety.

12 (10) Fire hazard.

13 (c) The RPF may propose exceptions to these rules if explained and
14 justified in the plan and found by the Director not to result in a
15 significant adverse impact on the environment.

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with this article

16 (d) Exceptions may also be provided through application of Fish and
17 Game Code Sections 1600 et seq. and shall be made an enforceable part
18 of the plan in accordance with 14 CCR §§ 1039, 1040, 1090.14, 1092.26,
19 or 1092.27, as appropriate.

20 (e) For watersheds with listed anadromous salmonids and for planning
21 watersheds immediately upstream of, and contiguous to, any watershed
22 with listed anadromous salmonids all logging roads, landings, and
23 logging road watercourse crossings shall be planned, designed,
24 constructed and reconstructed, used, maintained , abandoned,
25 deactivated, and removed in accordance with 14 CCR § 916.9 (a) and (c)
[936.9 (a) and (c), 956.9 (a) and (c)].

1 (f) The provisions of Articles 12 [Article 11 for Northern District]
2 that apply in watersheds with listed anadromous salmonids and in
3 planning watersheds immediately upstream of, and contiguous to, any
4 watershed with listed anadromous salmonids shall not apply to a plan
5 that is subject to:

6 (1) A valid incidental take permit issued by DFG pursuant to
7 Section 2081(b) of the Fish and Game Code that addresses anadromous
8 salmonid protection; or

9 (2) A federal incidental take statement or incidental take
10 permit that addresses anadromous salmonid protection, for which a
11 consistency determination has been made pursuant to Section 2080.1 of
12 the Fish and Game Code; or

13 (3) A valid natural community conservation plan that addresses
14 anadromous salmonid protection approved by DFG under section 2835 of
15 the Fish and Game Code; or

16 (4) A valid Habitat Conservation Plan (HCP) that addresses
17 anadromous salmonid protection, approved under Section 10 of the
18 federal Endangered Species Act of 1973; or

19 (5) Project revisions, guidelines, or take avoidance measures
20 pursuant to a memorandum of understanding or a planning agreement
21 entered into between the plan submitter and DFG in preparation of
22 obtaining a natural community conservation plan that addresses
23 anadromous salmonid protection.

24 ~~All logging roads and landings in the logging area shall be planned,~~
25 ~~located, constructed, reconstructed, used, and maintained in a manner~~
~~which is consistent with long term enhancement and maintenance of the~~

1 ~~forest resource; best accommodates appropriate yarding systems, and~~
2 ~~economic feasibility; minimizes damage to soil resources and fish and~~
3 ~~wildlife habitat; and prevents degradation of the quality and~~
4 ~~beneficial uses of water. The provisions of this article shall be~~
5 ~~applied in a manner which complies with this standard.~~

6 ~~Factors that shall be considered when selecting feasible alternatives~~
7 ~~(see 14 CCR 897 and 898) shall include, but are not limited to, the~~
8 ~~following:~~

- 9 ~~(a) Use of existing roads whenever feasible.~~
10 ~~(b) Use of systematic road layout patterns to minimize total mileage.~~
11 ~~(c) Planned to fit topography to minimize disturbance to the natural~~
12 ~~features of the site.~~
13 ~~(d) Avoidance of routes near the bottoms of steep and narrow canyons,~~
14 ~~through marshes and wet meadows, on unstable areas, and near~~
15 ~~watercourses or near existing nesting sites of threatened or~~
16 ~~endangered bird species.~~
17 ~~(e) Minimization of the number of watercourse crossings.~~
18 ~~(f) Location of roads on natural benches, flatter slopes and areas of~~
19 ~~stable soils to minimize effects on watercourses.~~
20 ~~(g) Use of logging systems which will reduce excavation or~~
21 ~~placement of fills on unstable areas.~~

23 **Amend § 923.1[943.1, 963.1]. Planning for Logging Roads and Landings.**

24 The following standards shall apply to logging roads and landings:

- 25 (a) Logging roads and landings shall be planned and located within
the context of a systematic layout pattern that considers 14 CCR §

923(b), uses existing logging roads and landings where feasible and appropriate, provides access for fire and resource protection activities, and minimizes the following:

(1) Duplicative roads and total road mileage.

(2) The number of logging road watercourse crossings.

(3) Activities near watercourses, lakes, marshes, wet meadows, and other wet areas.

(4) Activities across steep areas that lead without flattening to Class I, II, III, or IV watercourses and lakes.

(5) Activities on unstable areas or in connected headwall swales.

(6) Activities near nesting sites of rare, threatened, or endangered bird species.

(7) Activities near populations of rare, threatened, or endangered plants.

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(8) Ground disturbance and the size of cuts and fills.

(9) The potential for affecting surface hydrology, including but not limited to, concentrating or diverting runoff or draining the logging road or landing surface directly into a watercourse or lake.

(10) Maintenance needs while being compatible with the logging road classification and long-term road usage.

(b) No logging roads or landings shall be planned for construction or reconstruction within 150 feet of the Class I watercourse transition line or 100 feet of the Class II watercourse transition line, or in marshes, wet meadows, and other wet areas, except as follows:

Deleted: in Class I, II, III, or IV watercourses or lakes, within a WLPZ,

(1) At existing logging road watercourse crossings.

1 (2) At logging road watercourse crossings to be constructed or to
2 be reconstructed that are approved as part of the Fish and Game Code
3 process (F&GC 1600 et seq.)

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reconstructed

4 (3) At logging road watercourse crossings of Class III
5 watercourses that are dry at the time of use. Dry Class III watercourse
6 crossings that are connected to a Class II tributary (directly or indirectly)
7 should be inspected in the field by DFG.

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8 (c) Logging roads and landings shall be planned and located to avoid
9 unstable areas and connected headwall swales. The Director may
10 approve an exception if those areas are unavoidable, reviewed by a
11 licensed geologist, and site-specific measures to minimize slope
12 instability due to logging road or landing construction or
13 reconstruction are described and justified in the plan.

14 OPTION 2: (c) Logging roads and landings shall be planned and located
15 to avoid unstable areas and connected headwall swales. The Director
16 may approve an exception if those areas are unavoidable and site-
17 specific measures to ~~minimize slope instability~~ avoid slope failure
18 due to logging road or landing construction or reconstruction are
19 described and justified in the plan by a certified engineering
20 geologist.

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21 (d) As part of the planning and use of logging roads, landings, and
22 logging road watercourse crossings in the logging area, the RPF or
23 supervised designee shall: 1) locate and map significant existing and
24 potential erosion sites, and 2) specify and schedule feasible
25 treatments to mitigate significant adverse impacts from the logging
road or landing.

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document the potential of
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impact sensitive conditions
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1 OPTION 2: (d) As part of the planning and use of logging roads,
2 landings, and watercourse crossings in the logging area, the RPF or
3 supervised designee shall: 1) evaluate the logging road or landing and
4 document the existing or potential impacts to of the road or landing
5 to impact sensitive conditions and 2) locate and map significant
6 existing and potential erosion sites, and 3) specify and schedule
7 feasible treatments to mitigate significant adverse impacts from the
8 road or landing.

9 (1).

10 OPTION 2: During the field examination of classified watercourses
11 and lakes required under 14 CCR § 916.4 [936.4, 956.4], the RPF or
12 supervised designee shall evaluate watercourse areas near existing,
13 constructed, and reconstructed logging roads and landings in the
14 logging area for significant existing and potential adverse impacts
15 from the road to the sensitive condition. Sensitive conditions
16 include, but are not limited to, unstable and erodible watercourse
17 banks, unstable upslope areas, channels with inadequate flow capacity,
18 changeable channels, overflow channels, flood prone areas, debris jam
19 potential, aggraded channels, and riparian zones wherein the values
20 set forth in 14 CCR 916.4 [936.4, 956.4], subsection (b) are impaired.
21 Any evaluation regarding unstable areas must be addressed by a certified
22 engineering geologist. The RPF or supervised designee shall evaluate all
23 logging roads and landings in the logging area, including private
24 appurtenant roads, for evidence of significant existing and potential
25 erosion sites.

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Deleted: During the field examination of classified watercourses and lakes required under 14 CCR § 916.4 [936.4, 956.4], the RPF or supervised designee shall evaluate watercourse areas near existing, constructed, and reconstructed logging roads and landings in the logging area for significant existing and potential adverse impacts from the road to the sensitive condition. Sensitive conditions include, but are not limited to, unstable and erodible watercourse banks, unstable upslope areas, channels with inadequate flow capacity, changeable channels, overflow channels, flood prone areas, debris jam potential, aggraded channels, and riparian zones wherein the values set forth in 14 CCR 916.4 [936.4, 956.4], subsection (b) are impaired.

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(2)

(2) The RPF shall consider the significant existing and potential erosion sites identified by sections 14 CCR § 923.1(d)(1)-(2) [943.1(d)(1)-(2), 963.1(d)(1)-(2)]. Key factors to consider as part of developing necessary measures include:

(A) Type of road (permanent, seasonal, or temporary road), road location, expected log truck haul routes, and traffic use (e.g. volume and season) of each road segment during the life of the plan.

(B) Age of road and the history of sediment delivery from existing roads.

(C) Beneficial uses of the watercourse or lake and sensitive conditions potentially affected by the road including, but not limited to, watercourse classification and presence of listed anadromous salmonids.

(D) The hillslope grade, road grade of crossing approaches and the gradient of the stream channel.

(E) The erodibility of hillslope material exposed by the road.

(F) The length of hydrologic connectivity of a road segment, the physical properties of the connected segment and the presence or absence and functionality of erosion resistant material adjacent to the connected segment to prevent or minimize significant adverse impacts to sensitive conditions and significant discharge.

(G) Site-specific information regarding the condition of and location of all existing or potential sediment sources including, but not limited to: watercourse crossings, road approaches, ditch

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1 relief culverts, road surfaces, road cuts, road fills, inboard
2 ditches, through-cuts, and landings.

3 (4) A list of the significant existing and potential erosion sites
4 identified in 14 CCR § 923.1(d)(1) [943.1(d)(1), 963.1(d)(1)], which
5 have feasible protection measures and treatments, shall be submitted
6 with the plan and shall require the following information:

7 (A) A map showing the location(s) of significant existing
8 and potential erosion site(s) with a unique identifier for each site.

9 (B) Brief description of present condition of the mapped
10 significant existing or potential erosion site.

11 (C) Brief description of proposed protection measures or
12 treatments for the mapped significant existing or potential erosion
13 site.

14 (D) Items (B) and (C) above can be provided in tabular form
15 as part of the plan.

16 (5) Disclose and map the significant existing and potential
17 erosion sites identified in 14 CCR § 923.1(d)(1) [943.1(d)(1),
18 963.1(d)(1)], for which no feasible protection measures or treatments
19 exist. If no feasible treatment measures exist, the RPF shall propose
20 feasible off-site mitigation to reduce significant adverse impacts to
21 Beneficial Uses affected by the significant existing and potential
22 erosion sites for which no feasible protection measures or treatments
23 exist.

24 (6) Where feasible treatments for significant existing or
25 potential erosion sites are proposed, the RPF shall submit a schedule
that prioritizes a logical order of treatment. Prioritization of

Deleted: The RPF shall describe in the plan feasible protection measures and treatments for roads and landings that impact identified sensitive conditions. ¶
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treatments shall be given to sites with increasing erosion risks and risks to sensitive conditions.

(e) When selecting feasible alternatives (see 14 CCR §§ 897 and 898) during the planning phase of logging roads and landings, the RPF shall consider the location and planned use of logging roads and landings and whether such logging roads and landings will be abandoned or deactivated.

(f) The plan shall identify:

(1) How the proposed operations will fit into the permanent road network.

~~OPTION 2: (1) How the proposed operations will fit into the systematic layout pattern.~~

(2) What, if any, offsetting mitigation measures, including but not limited to, abandonment of logging roads and landings, are needed to minimize potential adverse impacts to watersheds from the road system.

(g) In watersheds with listed anadromous salmonids no logging roads or landings shall be planned for construction or reconstruction within 150 feet of the Class I watercourse transition line except those listed in 14 CCR § 916.9(e)(1)(A)-(E) [936.9(e)(1)(A)-(E), 956.9(e)(1)(A)-(E)] or pursuant to 14 CCR § 916.9(v) [936.9(v), 956.9(v)].

(h) In watersheds with listed anadromous salmonids within the Inner Zone A and B of flood prone areas of Class I watercourses the following Preferred Management Practices should be considered for inclusion in the plan by the RPF and by the Director:

Deleted: In watersheds with listed anadromous salmonids and in planning watersheds immediately upstream of, and contiguous to, any watershed with listed anadromous salmonids, where logging road or landing construction or reconstruction is proposed, t

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1 (1) Logging roads and landings should not be planned to be
2 constructed or to be reconstructed within 150 feet of the Class I watercourse
3 transition line.

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4 (2) Planned use of existing logging roads and landings should be
5 minimized in the flood prone area.

6 (3) Exceptions include the use of roads and landings to
7 accomplish actions to improve salmonid habitat conditions stated in 14
8 CCR § 916.9(f)(3)(E)(1) [936.9(f)(3)(E)(1), 956.9(f)(3)(E)(1)].

9 ~~The following standards for logging roads and landings shall be~~
10 ~~adhered to:~~

11 ~~(a) All logging roads shall be located and classified on the THP map~~
12 ~~as permanent, seasonal, or temporary. Road failures on existing roads~~
13 ~~which will be reconstructed shall also be located on the THP map. In~~
14 ~~addition to the requirements of 14 CCR 1034(x), the probable location~~
15 ~~of those landings which require substantial excavation or which exceed~~
16 ~~one quarter acre in size, shall be shown on the THP map.~~

17 ~~(b) New logging roads shall be planned in accordance with their~~
18 ~~classification and maintenance requirements.~~

19 ~~(c) Logging roads and landings shall be planned and located, when~~
20 ~~feasible, to avoid unstable areas. The Director shall approve an~~
21 ~~exception if those areas are unavoidable, and site specific measures~~
22 ~~to minimize slope instability due to construction are described and~~
23 ~~justified in the THP.~~

24 ~~(d) Where roads and landings will be located across 100 feet or more~~
25 ~~of lineal distance on any slopes over 65% or on slopes over 50% which~~
~~are within 100 ft. of the boundary of a WLPZ, measures to minimize~~

1 ~~movement of soil and the discharge of concentrated surface runoff~~
2 ~~shall be incorporated in the THP. The Director may waive inclusion of~~
3 ~~such measures where the RPF can show that slope depressions, drainage~~
4 ~~ways, and other natural retention and detention features are~~
5 ~~sufficient to control overland transport of eroded material. The~~
6 ~~Director may require end hauling of material from areas within 100 ft.~~
7 ~~of the boundary of a WLPZ to a stable location if end hauling is~~
8 ~~feasible and is necessary to protect water quality. The Director shall~~
9 ~~require maintenance provisions in the THP for drainage structures and~~
10 ~~facilities provided that such maintenance is feasible and necessary to~~
11 ~~keep roadbeds and fills stable.~~

12 ~~(e) New logging roads shall not exceed a grade of 15% except that~~
13 ~~pitched of up to 20% shall be allowed not to exceed 500 continuous~~
14 ~~feet (152.4 m). These percentages and distances may be exceeded only~~
15 ~~where it can be explained and justified in the THP that there is no~~
16 ~~other feasible access for harvesting of timber or where in the~~
17 ~~Northern or Southern Districts use of a gradient in excess of 20% will~~
18 ~~serve to reduce soil disturbance.~~

19 ~~(f) Roads and landings shall be planned so that an adequate number of~~
20 ~~drainage facilities and structures are installed to minimize erosion~~
21 ~~on roadbeds, landing surfaces, sidecast and fills.~~

22 ~~(g) Unless exceptions are explained and justified in the THP, general~~
23 ~~planning requirements for roads shall include:~~

24 ~~(1) Logging roads shall be planned to a single lane width compatible~~
25 ~~with the largest type of equipment used in the harvesting operation~~
~~with turnouts at reasonable intervals.~~

1 ~~(2) Roads shall be planned to achieve as close a balance between cut~~
2 ~~volume and fill volume as is feasible.~~

3 ~~(3) When roads must be planned so that they are insloped and ditched~~
4 ~~on the uphill side, drainage shall be provided by use of an adequate~~
5 ~~number of ditch drains.~~

6 ~~(h) Road construction shall be planned to stay out of Watercourse and~~
7 ~~Lake Protection Zones. When it is a better alternative for protection~~
8 ~~of water quality or other forest resources, or when such roads are the~~
9 ~~only feasible access to timber, exceptions may be explained and~~
10 ~~justified in the THP and shall be agreed to by the Director if they~~
11 ~~meet the requirements of this subsection.~~

12 ~~(i) [Coast] The location of all logging roads to be constructed shall~~
13 ~~be flagged or otherwise identified on the ground before submission of~~
14 ~~a THP or major amendment. Exceptions may be explained and justified in~~
15 ~~the THP and agreed to by the Director if flagging is unnecessary as a~~
16 ~~substantial aid to examining: (1) compatibility between road location~~
17 ~~and yarding and silvicultural systems, or (2) possible significant~~
18 ~~adverse effects of road location on water quality, soil productivity,~~
19 ~~wildlife habitat, or other special features of the area.~~

20 ~~(i) [Northern, Southern] All logging roads to be constructed shall be~~
21 ~~flagged or otherwise identified on the ground before submission of a~~
22 ~~THP or, substantial deviation, except for temporary roads less than~~
23 ~~600 ft. in length that would meet the requirements for a minor~~
24 ~~deviation (see 14 CCR 1036, 1039, 1040) if they were submitted as~~
25 ~~such. Exceptions may be explained and justified in the THP and agreed~~
~~to by the Director if flagging or other identification is unnecessary~~

~~as a substantial aid to examining: (1) compatibility between road location and yarding and silvicultural systems or (2) possible significant adverse effects of road location on water quality, soil productivity, wildlife habitat, or other special features of the area.~~
~~(j) If logging roads will be used from the period of October 15 to May 1, hauling shall not occur when saturated soil conditions exist on the road that may produce sediment in quantities sufficient to cause a visible increase in turbidity of downstream waters in receiving Class I, II, III or IV waters or that violate Water Quality Requirements.~~

Amend § 923.2 [943.2, 963.2]. Design and Location for Logging Roads and Landings Road Construction.

Logging roads and landings to be constructed or to be reconstructed shall be designed and located in accordance with their proposed use, maintenance requirements, and the approved plan:

(a) All logging roads and landings shall:

(1) Avoid or mitigate potential impacts to public safety.

(2) Avoid unstable areas and both connected and non-connected headwall swales to the extent feasible, and minimize activities that adversely affect them. Identification of unstable areas must be conducted by a certified engineering geologist.

(3) Minimize the size of cuts and fills to the extent feasible.

(4) Be outsloped where feasible and drained with waterbreaks or rolling dips in conformance with other applicable Forest Practice Rules.

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1 (5) Be hydrologically disconnected from watercourses and lakes as
2 illustrated in Technical Rule Addendum No. 5.

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feasible

3 (6) Include adequate drainage structures and facilities necessary
4 to avoid concentrating and diverting runoff, to minimize erosion of
5 roadbeds, landing surfaces, drainage ditches, sidecast and fills, to
6 minimize the potential for soil erosion and sediment transport, and to
7 prevent deposition of sediment in quantities that violate Water Quality
8 Requirements as illustrated in Technical Rule Addendum No. 5.

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9 (7) Avoid crossing, or locations on, 100 feet or more of lineal
10 distance over any slopes greater than 65 percent or within 250 feet from
11 the watercourse as measured to the watercourse transition line (WTL) on
12 slopes greater than 50 percent that drain toward the zoned watercourse
13 or lake. Where logging road or landing construction or reconstruction
14 is necessary in these areas, specific measures to minimize movement of
15 soil and the discharge of concentrated surface runoff shall be
16 incorporated in the plan. The Director may waive inclusion of such
17 measures where the RPF can show that slope depressions, drainage ways,
18 and other natural retention and detention features are sufficient to
19 control overland transport of eroded material.

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boundary of a WLPZ

20 (b) The Director may require removal of deposits of excess material
21 if the deposits are in a position to adversely affect the beneficial
22 uses of water.

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of the material is feasible

23 (c) Excess material excavated during logging road and landing
24 construction shall not be transported to disposal sites where it may
25 result in deposition of sediment in quantities that violate Water Quality
Requirements.

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discharge

1 (d) In addition to the requirements of subsection (a) above, all
2 logging roads to be constructed or to be reconstructed shall:

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reconstructed

3 (1) Be no wider than a single-lane compatible with the largest
4 type of equipment specified for use on the logging road, with adequate
5 turnouts provided as required for safety unless prohibited by existing
6 contracts with the U.S.D.A. Forest Service or other federal agency.

7 (2) Avoid grades greater than 20% or grades greater than 15% that
8 extend greater than 500 continuous feet. Exceptions may be approved
9 where there is no other feasible access for harvesting of timber or
10 where use of a gradient greater than 20% will serve to reduce soil
11 disturbance.

12 (e) In addition to the requirements of subsection (a) above, all
13 landings to be constructed or to be reconstructed shall:

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reconstructed

14 (1) Be consistent with the yarding and loading system to be
15 used.

16 (2) Be no larger than one-half acre unless explained and
17 justified in the plan.

18 (3) Avoid construction on slopes greater than 40 percent where
19 the landing will exceed one-quarter acre in size unless explained and
20 justified in the plan.

21 ~~Logging roads shall be constructed or reconstructed in accordance with~~
22 ~~the following requirements or as proposed by the RPF, justified in the~~
23 ~~THP, and found by the Director to be in conformance with the~~
24 ~~requirements of this Article.~~

25 ~~(a) Logging roads shall be constructed in accordance with the approved~~
~~THP. If a change in designation of road classification is subsequently~~

made, the change shall be reported in accordance with 14 CCR 1039 or 1040, as appropriate.

~~(b) Where a road section which is greater than 100 feet in length crosses slopes greater than 65%, placement of fill is prohibited and placement of sidecast shall be minimized to the degree feasible. The Director may approve an exception where site specific measures to minimize slope instability, soil erosion, and discharge of concentrated surface runoff are described and justified in the THP.~~

~~(c) On slopes greater than 50%, where the length of road section is greater than 100 ft., and the road is more than 15 ft. wide (as measured from the base of the cut slope to the outside of the berm or shoulder of the road) and the fill is more than 4 ft. in vertical height at the road shoulder for the entire 100 feet the road shall be constructed on a bench that is excavated at the proposed toe of the compacted fill and the fill shall be compacted. The Director may approve exception to this requirement where on a site specific basis if the RPF has described and justified an alternative practice that will provide equal protection to water quality and prevention of soil erosion.~~

~~(d) [Coast] Fills, including through fills across watercourses shall be constructed in a manner to minimize erosion of fill slopes using techniques such as insloping through-fill approaches, waterbars, berms, rock armoring of fill slopes, or other suitable methods.~~

~~(d) [Northern, Southern] Roads shall be constructed so no break in grade, other than that needed to drain the fill, shall occur on through fill; breaks in grade shall be above or below the through~~

1 ~~fill, as appropriate. Where conditions do not allow the grade to break~~
2 ~~as required, through fills must be adequately protected by additional~~
3 ~~drainage structures or facilities.~~

4 ~~(e) Through fills shall be constructed in approximately one foot~~
5 ~~lifts.~~

6 ~~(f) On slopes greater than 35 percent, the organic layer of the soil~~
7 ~~shall be substantially disturbed or removed prior to fill placement.~~

8 ~~The RPF may propose an exception in the THP and the Director may~~
9 ~~approve the exception where it is justified that the fill will be~~
10 ~~stabilized.~~

11 ~~(g) Excess material from road construction and reconstruction shall be~~
12 ~~deposited and stabilized in a manner or in areas where downstream~~
13 ~~beneficial uses of water will not be adversely affected.~~

14 ~~(h) Drainage structures and facilities shall be of sufficient size,~~
15 ~~number and location to carry runoff water off of roadbeds, landings~~
16 ~~and fill slopes. Drainage structures or facilities shall be installed~~
17 ~~so as to minimize erosion, to ensure proper functioning, and to~~
18 ~~maintain or restore the natural drainage pattern. Permanent~~
19 ~~watercourse crossings and associated fills and approaches shall be~~
20 ~~constructed where feasible to prevent diversion of stream overflow~~
21 ~~down the road and to minimize fill erosion should the drainage~~
22 ~~structure become plugged.~~

23 ~~(i) Where there is evidence that soil and other debris is likely to~~
24 ~~significantly reduce culvert capacity below design flow, oversize~~
25 ~~culverts, trash racks, or similar devices shall be installed in a~~
~~manner that minimizes culvert blockage.~~

~~(j) Waste organic material, such as uprooted stumps, cull logs, accumulations of limbs and branches, and unmerchantable trees, shall not be buried in road fills. Wood debris or cull logs and chunks may be placed and stabilized at the toe of fills to restrain excavated soil from moving downslope.~~

~~(k) Logging roads shall be constructed without overhanging banks.~~

~~(l) Any tree over 12 inches (30.5 cm) d.b.h. with more than 25% of the root surface exposed by road construction, shall be felled concurrently with the timber operations.~~

~~(m) Sidecast or fill material extending more than 20 ft. (6.1 m) in slope distance from the outside edge of the roadbed which has access to a watercourse or lake which is protected by a WLPZ shall be seeded, planted, mulched, removed, or treated as specified in the THP, to adequately reduce soil erosion.~~

~~(n) All culverts at watercourse crossings in which water is flowing at the time of installation shall be installed with their necessary protective structures concurrently with the fill, construction and reconstruction of logging roads. Other permanent drainage structures shall be installed no later than October 15. For construction and reconstruction of roads after October 15, drainage structures shall be installed concurrently with the activity.~~

~~(o) Drainage structures and drainage facilities on logging roads shall not discharge on erodible fill or other erodible material unless suitable energy dissipators are used. Energy dissipators suitable for use with waterbreaks are described in 14 CCR 914.6(f) [934.6(f), 954.6(f)].~~

~~(p) Where roads do not have permanent and adequate drainage, the specifications of Section 914.6 [934.6, 954.6] shall be followed.~~

~~(q) Drainage facilities shall be in place and functional by October 15. An exception is that waterbreaks do not need to be constructed on roads in use after October 15 provided that all such waterbreaks are installed prior to the start of rain that generates overland flow.~~

~~(r) No road construction shall occur under saturated soil conditions that may produce sediment in quantities sufficient to cause a visible increase in turbidity of downstream waters in receiving Class I, II, III or IV waters or that violate Water Quality Requirements, except that construction may occur on isolated wet spots arising from localized ground water such as springs, provided measures are taken to prevent material from significantly damaging water quality.~~

~~(s) Completed road construction shall be drained by outslowing, waterbreaks and/or cross draining before October 15. If road construction takes place from October 15 to May 1, roads shall be adequately drained concurrent with construction operations.~~

~~(t) Roads to be used for log hauling during the winter period shall be, where necessary, surfaced with rock in depth and quantity sufficient to maintain a stable road surface that does not produce sediment in quantities that may cause a visible increase in turbidity of downstream waters in receiving Class I, II, III or IV waters or would violate Water Quality Requirements throughout the period of use. Exceptions may be proposed by the RPF, justified in the THP, and found by the Director to be in conformance with the requirements of this subsection.~~

~~(u) Slash and other debris from road construction shall not be bunched against residual trees which are required for silvicultural or wildlife purposes, nor shall it be placed in locations where it could be discharged into Class I or II watercourses.~~

~~(v) Road construction activities in the WLPZ, except for stream crossings or as specified in the TMP, shall be prohibited.~~

Amend § 923.3 [943.3, 963.3]. Mapping and Identification for Logging Roads and Landings Watercourse Crossings.

The following mapping and identification standards shall apply to logging roads and landings:

(a) For logging road- and landing-related mapping requirements refer to 14 CCR §§ 1034(x)(4)(A)-(B) and (5)(A)-(L), 1090.5(w)(4)-(6), 1090.5(hh), 1090.7(n)(4)-(6), and 1092.09(l)(5)(A)-(B) and (6)(A)-(L).

~~(b) The RPF shall identify in the field all logging roads and landings to be constructed or to be reconstructed:~~

(1) Across slopes greater than 65 percent for 100 lineal feet or more.

(2) Across slopes greater than 50 percent for 100 lineal feet or more within 100 feet of the boundary of a WLPZ that drains toward the zoned watercourse or lake.

~~(c) The location of all logging roads to be constructed or reconstructed shall be flagged or otherwise identified on the ground prior to the pre-harvest inspection. Exceptions may be explained and justified in the plan and agreed to by the Director if flagging is~~

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unnecessary as a substantial aid to examining: (1) compatibility between logging road location and yarding and silvicultural systems, or (2) possible significant adverse effects of logging road location on the factors listed under 14 CCR § 923(b) [943(b), 963(b)].

~~Watercourse crossing drainage structures on logging roads shall be planned, constructed, reconstructed, and maintained or removed, according to the following standards. Exceptions may be provided through application of Fish and Game Code Sections 1600 et seq. and shall be included in the THP.~~

~~(a) The location of all new permanent watercourse crossing drainage structures and temporary crossings located within the WLPZ shall be shown on the THP map. If the structure is a culvert intended for permanent use, the minimum diameter of the culvert shall be specified in the plan. Extra culverts beyond those shown in the THP map may be installed as necessary.~~

~~(b) The number of crossings shall be kept to a feasible minimum.~~

~~(c) Drainage structures on watercourses that support fish shall allow for unrestricted passage of all life stages of fish that may be present, and shall be fully described in the plan in sufficient clarity and detail to allow evaluation by the review team and the public, provide direction to the LTO for implementation, and provide enforceable standards for the inspector.~~

~~(d) When watercourse crossings, other drainage structures, and associated fills are removed, the following standards shall apply:~~

1 ~~(1) Fills shall be excavated to form a channel that is as close as~~
2 ~~feasible to the natural watercourse grade and orientation, and that is~~
3 ~~wider than the natural channel.~~

4 ~~(2) The excavated material and any resulting cut bank shall be sloped~~
5 ~~back from the channel and stabilized to prevent slumping and to~~
6 ~~minimize soil erosion. Where needed, this material shall be stabilized~~
7 ~~by seeding, mulching, rock armoring, or other suitable treatment.~~

8 ~~(e) All permanent watercourse crossings that are constructed or~~
9 ~~reconstructed shall accommodate the estimated 100 year flood flow,~~
10 ~~including debris and sediment loads.~~

11 ~~(f) Watercourse crossings and associated fills and approaches shall be~~
12 ~~constructed or maintained to prevent diversion of stream overflow down~~
13 ~~the road and to minimize fill erosion should the drainage structure~~
14 ~~become obstructed. The RPF may propose an exception where explained in~~
15 ~~the THP and shown on the THP map and justified how the protection~~
16 ~~provided by the proposed practice is at least equal to the protection~~
17 ~~provided by the standard rule.~~

18 ~~(g) All new permanent culverts on Class I watercourses, where fish are~~
19 ~~always or seasonally present or where fish habitat is restorable,~~
20 ~~shall be planned, designed and constructed to allow upstream and~~
21 ~~downstream passage of fish or listed aquatic species during any life~~
22 ~~stage and for the natural movement of bedload to form a continuous bed~~
23 ~~through the culvert and shall require an analysis and specifications~~
24 ~~demonstrating conformance with the intent of this section and~~
25 ~~subsection.~~

Amend § 923.4 [943.4, 963.4]. Construction and Reconstruction for
Logging Roads and Landings ~~Road Maintenance.~~

Logging roads and landings shall be constructed or reconstructed in accordance with the approved plan and the following requirements. If a change in designation of logging road classification is made after the plan is approved, the change shall be reported in accordance with 14 CCR §§ 1039, 1040, 1090.14, 1092.26 or 1092.27, as appropriate.

(a) Logging roads and landings shall be constructed or reconstructed to be hydrologically disconnected from watercourses and lakes to the extent feasible.

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~~(b) Logging roads and landings shall not be constructed or reconstructed where such operations pose a significant risk to public safety.~~

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~~(c) Logging roads or landings shall not be constructed or reconstructed within 150 feet of the Class I watercourse transition line or 100 feet of the Class II watercourse transition line, marshes, wet meadows, or other wet areas, except for logging road watercourse crossings or as specified in the plan.~~

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~~(d) Logging roads and landings shall not be constructed or reconstructed across unstable areas or connected and non-connected headwall swales except as specified in the Plan and reviewed by a licensed Geologist.~~

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OPTION 2: (c) Logging roads and landings shall not be constructed or reconstructed across unstable areas or connected headwall swales except as specified in the Plan by a certified engineering geologist.

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1 (e) Logging roads and landings shall not be constructed with
2 overhanging banks.

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3 (f) Any tree over 12 inches dbh with more than 25 percent of the root
4 surface exposed by logging road or landing construction shall be
5 felled concurrently with the timber operations.

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6 (1) If feasible, any tree meeting the above criteria within 100
7 meters of a Class I watercourse shall be left onsite, or placed in the
8 watercourse for salmonid habitat enhancement.

9 (g) On slopes greater than 20 percent, fill placement shall conform to
10 the recommendations of a geotechnical engineer and certified engineering
11 geologist, and the exposed surface shall be inspected by the engineering
12 geologist prior to fill placement.

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13 (h) Waste organic material, such as uprooted stumps, cull logs,
14 accumulations of limbs and branches, and unmerchantable trees, shall
15 not be buried in logging road or landing fills. Wood debris or cull
16 logs and chunks may be placed and stabilized at the toe of fill to
17 restrain excavated soil from moving downslope.

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18 (i) Slash and other debris from road construction shall not be
19 bunched against residual trees, which are required for silvicultural
20 or wildlife purposes, nor shall it be placed in locations where it
21 could be discharged into Class I or II watercourses or lakes.

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22 (j) Where constructed fills will exceed three feet in vertical
23 thickness, fill slopes shall be inclined no greater than 50 percent
24 unless acceptable recommendations from a geotechnical engineer are prepared
25 and approved.

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OPTION 2: (i) Where constructed fills will exceed three feet in vertical thickness, fill slopes shall be inclined no greater than 67 percent.

(k) Logging roads or landings shall not be constructed or reconstructed under saturated soil conditions, except that construction may occur on isolated wet spots arising from localized ground water such as springs, provided measures are taken to prevent deposition of sediment in quantities that violate Water Quality Requirements.

(l) Construction or reconstruction of logging roads or landings shall not take place during the winter period unless the approved plan incorporates a complete winter period operating plan pursuant to 14 § CCR 914.7 [934.7, 954.7], subsection (a) that specifically addresses such logging road or landing construction or reconstruction.

(m) On slopes greater than 50 percent for greater than 100 lineal feet, fills greater than four feet in vertical height at the outside shoulder of the logging road or landing shall be:

(1) Constructed on a bench that is excavated at the proposed toe of the fill and is wide enough to compact the first lift.

(2) Compacted in approximately one-foot lifts from the toe to the finished grade or retained by an engineered structure.

(a) a geotechnical engineer shall establish an optimum moisture content and laboratory maximum density for each soil and rock type that will be used as fill;

(b) field moisture/density tests of the fill shall be performed to check compliance with specified compaction standards;

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(c) the geotechnical engineer shall certify compliance with he specified compaction standards, and;

(d) no fill shall be placed on slopes prior to inspection and written approval by the engineering geologist.

(n) Logging roads and landings approved for construction or reconstruction across 100 feet or more of lineal distance on any slope greater than 65 percent or within 100 feet of the boundary of a WLPZ on slopes greater than 50 percent that drain toward the zoned watercourse or lake shall be constructed to the specific construction techniques or measures that are reviewed by a licensed Geologist and as described in the plan.

(o) Fills shall not be constructed on slopes greater than 65 percent and shall only be constructed on slopes that a certified engineering geologist and geotechnical engineer have determined will remain stable with the additional weight of the fill.

(p) Sidecast from logging road and landing construction shall be prohibited in areas where it may cause significant sediment discharge. Excavated material cannot be used as sidecast and can only be used as properly engineered and compacted fill. Any excess excavated material shall be disposed where it can do no harm.

(1) On these slopes adjacent to a Class I watercourse, sidecast shall be end-hauled to an area in conformance with Section 923.4(q).

(q) Excess material transported from logging road or landing construction or reconstruction shall be deposited and stabilized in a manner and in areas that avoid potential adverse impacts to:

(1) Public safety.

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1 (2) Watercourses.

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2 (r) Where conditions are encountered during logging road or landing
3 construction or reconstruction that differ from what was anticipated
4 during the preparation and review of the plan and that will result in
5 a significant adverse impact on the environment or to public safety,
6 the LTO shall inform the RPF or plan submitter of these unanticipated
7 conditions in accordance with 14 CCR § 1035.3.

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8 (s) In watersheds with listed anadromous salmonids, no logging roads
9 or landings shall be constructed or reconstructed within 150 feet of the
10 Class I watercourse transition line, except for those listed in 14 CCR §
11 916.9(e)(1)(A)-(F) ([936.9(e)(1)(A)-(F), 956.9(e)(1)(A)-(F)] or pursuant
12 to 14 CCR § 916.9(v)[936.9(v), 956.9(v)].

Deleted: If necessary, the responsible RPF or plan submitter shall submit to the Director a deviation to the plan describing the unanticipated conditions and proposing appropriate actions.

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13 (t) In watersheds with listed anadromous salmonids and in planning
14 watersheds immediately upstream of, and contiguous to, any watershed
15 with listed anadromous salmonids, the following shall apply:

16 (1) On slopes greater than 50 percent that have access to a
17 watercourse or lake:

18 (A) Specific provisions for the protection of salmonid
19 habitat shall be identified and described for all logging road
20 construction.

21 (B) Where cutbank stability is not an issue, as determined by
22 a certified engineering geologist, logging roads may be constructed as a
23 full-benched cut (no fill). Spoils not utilized in logging road
24 construction shall be disposed of in stable areas, as determined by a
25 certified engineering geologist, with less than 30 percent slope outside
of any WLPZ, EEZ, or ELZ designated for watercourse or lake

1 protection. The Director, with concurrence from other responsible
2 agencies, may waive inclusion of these measures where the RPF can show
3 that slope depressions and other natural retention and detention
4 features are sufficient to control overland transport of eroded
5 material.

6 (C) Logging roads may be constructed with balanced cuts and
7 fills:

8 (i) If properly engineered, or,

9 (ii) If fills are removed and the slopes recontoured
10 prior to the winter period, but only if performed in an area where erosion
11 can not affect water quality or salmonid habitat.

12 (2) During the extended wet weather period, no timber
13 operations shall take place unless the approved plan incorporates
14 a complete winter period operating plan pursuant to 14 CCR §
15 914.7(b)[934.7(b), 954.7(b)]. The winter period operating plan
16 shall specifically address, where applicable, proposed logging
17 road and landing construction, and reconstruction.

18 ~~Logging roads, landings, and associated drainage structures used in a~~
19 ~~timber operation shall be maintained in a manner which minimizes~~
20 ~~concentration of runoff, soil erosion, and slope instability and which~~
21 ~~prevents degradation of the quality and beneficial uses of water~~
22 ~~during timber operations and throughout the prescribed maintenance~~
23 ~~period. In addition those roads which are used in connection with~~
24 ~~stocking activities shall be maintained throughout their use even if~~
25 ~~this is beyond the prescribed maintenance period.~~

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1 ~~(a) The prescribed maintenance period for erosion controls on~~
2 ~~permanent and seasonal roads and associated landings and drainage~~
3 ~~structures which are not abandoned in accordance with 14 CCR 923.8~~
4 ~~[943.8, 963.8] shall be at least one year. The Director may prescribe~~
5 ~~a maintenance period extending up to three years in accordance with 14~~
6 ~~CCR 1050.~~

7 ~~(b) Upon completion of timber operations, temporary roads and~~
8 ~~associated landings shall be abandoned in accordance with 14 CCR 923.8~~
9 ~~[943.8, 963.8].~~

10 ~~(c) Waterbreaks shall be maintained as specified in 14 CCR 914.6~~
11 ~~[934.6, 954.6].~~

12 ~~(d) Unless partially blocked to create a temporary water source,~~
13 ~~waterecourse crossing facilities and drainage structures, where~~
14 ~~feasible, shall be kept open to the unrestricted passage of water.~~
15 ~~Where needed, trash racks or similar devices shall be installed at~~
16 ~~culvert inlets in a manner which minimizes culvert blockage. Temporary~~
17 ~~blockages shall be removed by November 15.~~

18 ~~(e) Before the beginning of the winter period, all roadside berms~~
19 ~~shall be removed from logging roads or breached, except where needed~~
20 ~~to facilitate erosion control.~~

21 ~~(f) Drainage structures, if not adequate to carry water from the~~
22 ~~fifty-year flood level, shall be removed in accordance with 14 CCR~~
23 ~~923.3(d) [943.3(d), 963.3(d)] by the first day of the winter period,~~
24 ~~before the flow of water exceeds their capacity if operations are~~
25 ~~conducted during the winter period, or by the end of timber operations~~
~~whichever occurs first. Properly functioning drainage structures on~~

~~roads that existed before timber operations need not be removed. An RPF may utilize an alternative practice, such as breaching of fill, if the practice is approved by the Director as providing greater or equal protection to water quality as removal of the drainage structure.~~

~~(g) Temporary roads shall be blocked or otherwise closed to normal vehicular traffic before the winter period.~~

~~(h) During timber operations, road running surfaces in the logging area shall be treated as necessary to prevent excessive loss of road surface materials by, but not limited to, rocking, watering, chemically treating, asphaltting or oiling.~~

~~(i) Soil stabilization treatments on road or landing cuts, fills, or sidecast shall be installed or renewed, when such treatment could minimize surface erosion which threatens the beneficial uses of water.~~

~~(j) Drainage ditches shall be maintained to allow free flow of water and minimize soil erosion.~~

~~(k) Action shall be taken to prevent failures of cut, fill, or sidecast slopes from discharging materials into watercourses or lakes in quantities deleterious to the quality or beneficial uses of water.~~

~~(l) Each drainage structure and any appurtenant trash rack shall be maintained and repaired as needed to prevent blockage and to provide adequate carrying capacity. Where not present, new trash racks shall be installed if there is evidence that woody debris is likely to significantly reduce flow through a drainage structure.~~

~~(m) Inlet and outlet structures, additional drainage structures (including ditch drains), and other features to provide adequate capacity and to minimize erosion of road and landing fill and sidecast~~

1 to minimize soil erosion and to minimize slope instability shall be
2 repaired, replaced, or installed wherever such maintenance is needed
3 to protect the quality and beneficial uses of water.

4 ~~(n) Permanent watercourse crossings and associated approaches shall be~~
5 ~~maintained to prevent diversion of stream overflow down the road~~
6 ~~should the drainage structure become plugged. Corrective action shall~~
7 ~~be taken before the completion of timber operations or the drainage~~
8 ~~structure shall be removed in accordance with 14 CCR Section 923.3(d)~~
9 ~~[943.3(d), 963.3(d)].~~

10 ~~(o) Except for emergencies and maintenance needed to protect water~~
11 ~~quality, use of heavy equipment for maintenance is prohibited during~~
12 ~~wet weather where roads or landings are within a WLPZ.~~

13 ~~(p) The Director may approve an exception to a requirement set forth~~
14 ~~in subsections (b) through (o) above when such exceptions are~~
15 ~~explained and justified in the THP and the exception would provide for~~
16 ~~the protection of the beneficial uses of water or control erosion to a~~
17 ~~standard at least equal to that which would result from the~~
18 ~~application of the standard rule.~~

19
20 **Amend § 923.5 [943.5,963.5]. Erosion Control for Logging Roads and**
21 **Landings-Landing Construction.**

22 The following erosion control standards shall apply to logging roads
23 and landings:

24 (a) All logging road and landing surfaces shall be adequately drained
25 through the use of [logging road surface shaping](#) in combination with the
installation of drainage structures or facilities and shall be

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configurations

hydrologically disconnected from watercourses and lakes as illustrated in Technical Rule Addendum No. 5 where significant sediment discharge is present.

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(b) Drainage facilities shall be installed along all logging roads and all landings that are used for timber operations in sufficient number to minimize soil erosion and sediment transport and to prevent deposition of sediment in quantities that violate Water Quality Requirements.

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(c) Ditch drains, associated necessary protective structures, and other features associated with the ditch drain shall:

(1) Be adequately sized to transmit runoff.

(2) Minimize erosion of logging road and landing surfaces.

(3) Avoid discharge onto unprotected fill.

(4) Discharge to erosion resistant material.

(5) Be spaced according to the following:

(A) If existing ditch drains are of sufficient number and spacing to adequately capture logging road runoff while not showing excessive movement of sediment or excessive downcutting, then additional drainage shall not be required;

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(B) If ditch drains are not sufficient to adequately capture logging road runoff, then ditch drains shall be constructed or reconstructed as illustrated in Technical Rule Addendum No. 5.

Deleted: Minimize potential adverse impacts to slope stability

(d) Waterbreaks and rolling dips installed across logging roads and landings shall be of sufficient size and number and be located to avoid collecting and discharging concentrated runoff onto fills, erodible soils, unstable areas, and connected headwall swales.

(e) Where logging roads or landings do not have permanent and adequate drainage, and where waterbreaks are to be used to control surface runoff, the waterbreaks shall be cut diagonally a minimum of six inches into the firm roadbed and shall have a continuous firm embankment of at least six inches in height immediately adjacent to the lower edge of the waterbreak cut. On logging roads that have firmly compacted surfaces, waterbreaks may be installed by hand methods and need not provide the additional six-inch embankment provided the waterbreak ditch is constructed so that it is at least six inches deep and six inches wide on the bottom and provided there is ample evidence based on slope, material, amount of rainfall, and period of use that the waterbreaks so constructed will be effective in diverting water flow from the logging road surface without the embankment.

(f) Distances between waterbreaks shall not exceed the following standards and consider erosion hazard rating and road gradient:

MAXIMUM DISTANCE BETWEEN WATERBREAKS

<u>Estimated</u>	<u>Logging Road</u>	<u>Gradient in Percent</u>	
<u>Hazard</u>	<u>10 or less</u>	<u>11-25</u>	<u>>25</u>
<u>Rating</u>			
	<u>Feet</u>	<u>Feet</u>	<u>Feet</u>
Extreme	100	75	50
High	150	100	75
Moderate	200	150	100
Low	300	200	150)

1 (g) Where outsloping and rolling dips are used to control surface
2 runoff, the dip in the logging road grade shall be sufficient to
3 capture runoff from the logging road surface. The steepness of cross-
4 slope gradient in conjunction with the logging road or landing
5 gradient and the estimated soil erosion hazard rating shall be used to
6 determine the rolling dip spacing as illustrated in Technical Rule
7 Addendum No. 5 in order to minimize soil erosion and sediment transport
8 and to prevent deposition of sediment in quantities that violate Water
9 Quality Requirements.

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discharge

10 (h) Drainage facilities and ditch drains shall discharge into
11 vegetation, woody debris, or rock wherever possible. Where erosion-
12 resistant material is not present, slash, rock, or other energy
13 dissipating material shall be installed below the drainage facility or
14 drainage structure outlet.

15 (i) Where logging road and landing surfaces, road approaches, inside
16 ditches and drainage structures cannot be hydrologically disconnected
17 as illustrated in Technical Rule Addendum No. 5, and where there is
18 existing or the potential for deposition of sediment in quantities that
19 violate Water Quality Requirements, necessary and feasible treatments to
20 prevent the discharge will be described in the plan.

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discharge

21 (j) All logging roads and landings used for timber operations shall
22 have adequate drainage upon completion of use for the year or by
23 October 15, whichever is earlier. An exception is that drainage
24 facilities and drainage structures do not need to be constructed on
25 logging roads in use during the extended wet weather period provided
that all such drainage facilities and drainage structures are

1 installed prior to the start of rain that generates overland flow off
2 the logging road surface.

3 (k) Where logging road or landing construction or reconstruction
4 takes place during the extended wet weather period, drainage
5 facilities and drainage structures shall be installed and functional
6 concurrent with construction or reconstruction operations.

7 (1) Bare soil on logging road or landing cuts, fills, transported
8 spoils, or sidecast that is created or exposed by timber operations
9 shall be stabilized to the extent necessary to minimize soil erosion
10 and sediment transport and to prevent deposition of sediment in quantities
11 that violate Water Quality Requirements. Sites to be stabilized include,
12 but are not limited to:

13 (1) Sidecast or fill exceeding 20 feet in slope distance from
14 the outside edge of a logging road or a landing that has direct or
15 indirect access to a watercourse or lake.

16 (2) Cut and fills associated with approaches to logging road
17 watercourse crossings of Class I or II waters or Class III waters
18 where an ELZ, EEZ, or a WLPZ is required.

19 (3) Bare areas exceeding 800 continuous square feet within a
20 WLPZ.

21 (m) Soil stabilization measures shall be described in the plan
22 pursuant to 14 CCR 923.5(k)[943.5,963.5], subsection (k) and shall rely
23 on maintenance free protections of proven effectiveness such as armoring with
24 boulders.

25 (n) Where the natural ability of ground cover within a WLPZ is
inadequate to protect the beneficial uses of water by minimizing soil

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erosion or by filtering sediments, the plan shall specify protection measures to retain and improve the natural ability of the ground cover to filter sediment and minimize soil erosion.

(o) Soil stabilization treatments shall be in place upon completion of operations for the year of use or prior to the extended wet weather period, whichever comes first. An exception is that bare areas created during the extended wet weather period shall be treated prior to the start of rain that generates overland flow, within 10 days or as agreed to by the Director.

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OPTION 2: Soil stabilization treatments shall be in place upon completion of operations for the year of use or prior to the extended wet weather period. An exception is that bare areas created during the extended wet weather operating period shall be treated prior to the start of rain that generates overland flow, or within 10 days, whichever is sooner, or as agreed to by the Director.

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(p) Overhanging or unstable concentrations of slash, woody debris or soil along the downslope edge or face of landings shall be removed or stabilized when it is located on slopes greater than 65 percent or within 100 feet of the boundary of a WLPZ on slopes greater than 50 percent that drain toward the zoned watercourse or lake, or when it may result in significant sediment discharge. Removed materials shall not be placed at disposal sites that could result in deposition of sediment in quantities that violate Water Quality Requirements.

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(q) Logging roads to be constructed or to be reconstructed shall be outsloped where feasible and drained with waterbreaks or rolling dips where the road grade is inclined at seven (7) percent or less in

conformance with other applicable Forest Practice Rules. Outslowing of roads may not be feasible in all situations due to safety concerns, timing of use, or expected traffic.

(1) In addition to the provisions listed under 14 CCR § 923.2(d)(2) [943.2(d)(2), 963.2(d)(2)], all permanent and seasonal logging roads with a grade of 15 percent or greater that extend 500 continuous feet or more shall have specific erosion control measures stated in the plan.

(r) In watersheds with listed anadromous salmonids and in planning watersheds immediately upstream of, and contiguous to, any watershed with listed anadromous salmonids, the following shall apply:

(1) Within the WLPZ, and within any ELZ or EEZ designated for watercourse or lake protection, treatments to stabilize soils, minimize soil erosion, and prevent deposition of sediment in quantities that violate Water Quality Requirements shall be described in the plan as follows:

OPTION 2: (3) Within the WLPZ, and within any ELZ or EEZ designated for watercourse or lake protection, or where significant discharge may extend from beyond the WLPZ, treatments to stabilize soils, minimize soil erosion, and prevent significant sediment discharge shall be described in the plan as follows:

(A) In addition to the requirements of subsections (k)-(o), soil stabilization is required for the following areas:

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Deleted: (1) .Constructed and reconstructed logging roads shall be outslowed where feasible and drained with waterbreaks or rolling dips where the road grade is inclined at seven (7) percent or less) in conformance with other applicable Forest Practice Rules.

Deleted: 2) .In addition to the provisions listed under 14 CCR § 923.2(d)(2) [943.2(d)(2), 963.2(d)(2)], all permanent and seasonal logging roads with a grade of 15 percent or greater that extend 500 continuous feet or more shall have specific erosion control measures stated in the plan.

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1 (i) Areas exceeding 100 continuous square feet where
2 timber operations have exposed bare soil, and

3 (ii) Disturbed logging road and landing cut banks and
4 fills, and

5 (iii) Any other area of disturbed soil that threatens
6 to cause deposition of sediment in quantities that violate Water Quality
7 Requirements.

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8 (B) Where straw mulch is used, the minimum straw coverage
9 shall be 90 percent with a minimum depth of 3 inches, and any treated
10 area that has been reused or has less than 90 percent surface cover
11 shall be treated again by the end of timber operations.

12 (C) Where slash mulch is packed into the ground surface
13 through the use of a tractor or equivalent piece of heavy equipment
14 the minimum slash coverage shall be 75 percent with a minimum depth of
15 3 inches.

16 OPTION 2: (C) Where slash mulch is packed into the ground
17 surface through the use of a tractor or equivalent piece of heavy
18 equipment minimum slash surface (added) coverage shall be 75% with a minimum
19 ground contact in order to be as effective as mulch. (D) For areas disturbed

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20 outside of the extended wet weather period, treatment shall be
21 completed prior to the start of any rain that causes overland flow
22 across or along the disturbed surface that could result in deposition of
23 sediment in quantities that violate Water Quality Requirements.

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24 (E) For areas disturbed during the extended wet weather
25 period, treatment shall be completed prior to any day for which a
chance of rain of 30 percent or greater is forecast by the National

1 Weather Service or within 10 days of disturbance, whichever is
2 earlier.

3 (F) Where the natural ability of ground cover is
4 inadequate to protect the beneficial uses of water by minimizing soil
5 erosion or by filtering sediments within any ELZ or EEZ designated for
6 watercourse or lake protection, the plan shall specify protection
7 measures to retain and improve the natural ability of the ground cover
8 to filter sediment and minimize soil erosion.

9 ~~Landings shall be constructed according to the following standards:~~

10 ~~(a) On slopes greater than 65%, no fill shall be placed and sidecast~~
11 ~~shall be minimized to the degree feasible. The Director may approve an~~
12 ~~exception if, site specific measures to minimize slope instability,~~
13 ~~soil erosion, and discharge of concentrated surface runoff are~~
14 ~~described and justified in the THP.~~

15 ~~(b) On slopes greater than 50%, fills greater than 4 ft. in vertical~~
16 ~~height at the outside shoulder of the landing shall be: 1) constructed~~
17 ~~on a bench that is excavated at the proposed toe of the fill and is~~
18 ~~wide enough to compact the first lift, and 2) compacted in~~
19 ~~approximately 1 ft. lift from the toe to the finished grade. The RPF~~
20 ~~or supervised designee shall flag the location of this bench or the~~
21 ~~RPF shall provide a description of the bench location (narrative or~~
22 ~~drawing) in the THP for fills meeting the above criteria, where the~~
23 ~~length of landing section is greater than 100 feet. The RPF may~~
24 ~~propose an exception in the THP and the Director may approve the~~
25 ~~exception where it is justified that the landing will be stabilized.~~

~~(c) Waste organic material, such as uprooted stumps cull logs, accumulations of limbs and branches, or unmerchantable trees, shall not be buried in landing fills. Wood debris or cull logs and chunks may be placed and stabilized at the toe of landing fills to restrain excavated soil from moving downslope.~~

~~(d) Constructed landings shall be the minimum in width, size, and number consistent with the yarding and loading system to be used. Landings shall be no larger than one half acre (.202 ha) unless explained and justified in the THP.~~

~~(e) No landing construction shall occur under saturated soil conditions that may produce sediment in quantities sufficient to cause a visible increase in turbidity of downstream waters in receiving Class I, II, III or IV waters or that violate Water Quality Requirements.~~

~~(f) The following specifications shall be met upon completion of timber operations for the year or prior to October 15, whichever occurs first:~~

~~(1) Overhanging or unstable concentrations of slash, woody debris and soil along the downslope edge or face of the landings shall be removed or stabilized when they are located on slopes over 65% or on slopes over 50% within 100 ft. of a WLPZ.~~

~~(2) Any obstructed ditches and culverts shall be cleaned.~~

~~(3) Landings shall be sloped or ditched to prevent water from accumulating on the landings. Discharge points shall be located and designed to reduce erosion.~~

~~(4) Sidecast or fill material extending more than 20 feet in slope distance from the outside edge of the landing and which has access to a watercourse or lake shall be seeded, planted, mulched, removed or treated as specified in the THP to adequately reduce soil erosion.~~

~~(5) Sidecast or fill material extending across a watercourse shall be removed in accordance with standards for watercourse crossing removal set forth in 14 CCR 923.3 (d).~~

~~(g) On slopes greater than 35%, the organic layer of the soil shall substantially removed prior to fill placement.~~

~~(h) When landings are constructed after October 15 they shall be adequately drained concurrent with construction operations and shall meet the requirements of (f)(1) through (f)(4) of this subsection upon completion of operations at that landing.~~

~~(i) The RPF may propose and the Director may approve waiver of requirements in (f)(1) through (f)(4) of this subsection if the Director finds they are not necessary to minimize erosion or prevent damage to downstream beneficial uses. The Director may also approve an exception to the October 15th date for treatment of slash and debris, including the practice of burning.~~

Amend § 923.6 [943.6, 963.6]. Use of Logging Roads and Landings
Conduct of Operations on Roads and Landings.

The following use standards shall apply to logging roads and landings:

(a) Logging roads and landings shall be used in a manner that is consistent with their design and construction specifications.

1 (b) Logging roads and landings shall not be used during any time of
2 the year when operations may result in deposition of sediment in
3 quantities that violate Water Quality Requirements to watercourse or lakes,
4 except in emergencies to protect the road, to reduce erosion, to
5 protect water quality, or in response to public safety needs.

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discharge

6 (c) Log hauling or other heavy equipment uses shall be limited to
7 logging roads and landings which are hydrologically disconnected from
8 watercourses as illustrated in Technical Rule Addendum No. 5 and exhibit a
9 stable operating surface. Use may occur on limited segments of roads
10 or landings that do not exhibit a stable operating surface when the
11 road segment or landing is completely, and at all times,
12 hydrologically disconnected from a watercourse to the extent feasible
13 as illustrated in Technical Rule Addendum No. 5, and equipment can operate
14 under its own power.

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feasible

15 OPTION 2: (c) During the extended wet weather period, log hauling or other
16 heavy equipment use shall be limited to logging roads and landings which are
17 hydrologically disconnected from watercourses to the extent feasible and
18 exhibit a stable operating surface in conformance with (b) above. Routine
19 Use of roads and landings may occur on limited segments of roads or landing
20 that do not exhibit a stable operating surface when the road segment is
21 completely, and at all times, hydrologically disconnected from a watercourse
22 shall not take place when, due to general wet conditions, and equipment
23 cannot operate under its own power.

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24 (d) When burning permits are required pursuant to PRC § 4423, logging
25 roads and landings that are in use shall be kept in passable condition
for fire trucks.

1 (e) All roadside berms that impede logging road drainage, create logging
2 road surface flow or lead to hydrologic connection shall be removed or
3 breached before the beginning of the winter period, if retention of the
4 berms will result in significant sediment discharge.

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of berms needed for erosion
control

5 (f) Temporary roads shall be blocked or otherwise closed to standard
6 production four-wheel drive highway vehicles prior to the winter
7 period.

8 (g) Logging roads and landings used for log hauling or other heavy
9 equipment uses during the winter period shall only occur on a stable
10 operating surface and be surfaced with rock to a depth and quantity

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11 sufficient to maintain such a surface unless the timber harvest plan
12 explains and justifies why surfacing with rock is not necessary. Use is
13 prohibited on roads that are not hydrologically disconnected to the
14 extent feasible as illustrated in Technical Rule Addendum No. 5 or exhibit

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15 saturated soil conditions. Exceptions may be proposed by the RPF, when
16 locations are disclosed and justified in the THP, consistent with 14
17 CCR 923.6 (c), and approved by the Director.

18 OPTION 2: Logging roads and landings used for log hauling or other heavy
19 equipment uses during the winter period may occur during hard frozen
20 conditions or shall, occur on a stable operating surface and, be surfaced
21 with rock where necessary, to a depth and quantity sufficient to maintain
22 such a stable operating surface. Such use is prohibited on roads that are
23 not hydrologically disconnected to the extent feasible and exhibit saturated
24 soil conditions, or as specified in (b) above. Exceptions may be proposed by
25 the RPF, when locations are disclosed and justified in the THP, consistent

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with 14 CCR 923.6(c), and approved by the Director pursuant to 14 CCR 923
[943, 963] subsection (c).

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(h) Concurrent with ~~and immediately upon completion of use for~~ log
hauling or other heavy equipment uses, all road approaches to logging
road watercourse crossings shall be treated for erosion control as
needed to minimize soil erosion and sediment transport and to prevent
deposition of sediment in quantities that violate Water Quality Requirements.

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(i) Concurrent with ~~and immediately upon completion of use for~~ log
hauling or other heavy equipment uses, all traveled surfaces of
logging roads in a WLPZ, and ELZ or EEZ designated for watercourse or
lake protection, shall be treated for erosion control as needed to
minimize soil erosion and sediment transport and to prevent deposition
of sediment in quantities that violate Water Quality Requirements.

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listed anadromous salmonids
and in planning watersheds
immediately upstream of, and
contiguous to, any watershed
with listed anadromous
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shall apply:

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(j) In watersheds with listed anadromous salmonids and in planning
watersheds immediately upstream of, and contiguous to, any watershed
with listed anadromous salmonids, the following shall apply:

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(1) Existing logging roads or landings shall not be used within
the CMZ of a Class I watercourse except as listed in 14 CCR § 916.9
916.9 [936.9, 956.9] subsection (e)(1)(A)-(F) or pursuant to 14 CCR §
916.9(v) [936.9(v), 956.9(v)].

(2) When feasible, minimize use of existing logging roads and
landings located within Inner Zones A and B of flood prone areas.
Exceptions include the use of roads and landings to accomplish actions
to improve salmonid habitat conditions stated in 14 CCR § 916.9
916.9(f)(3)(E)(1.) [936.9(f)(3)(E)(1.), 956.9(f)(3)(E)(1.)]

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use for log hauling or other
heavy equipment uses, all
road approaches to logging
road watercourse crossings
shall be treated for erosion
control as needed to
minimize soil erosion and
sediment transport and to
prevent significant sediment
discharge to watercourses or
lakes.

1
2 ~~(3)~~ No timber operations shall take place during the extended wet
3 weather period unless the approved plan incorporates a complete winter
4 period operating plan pursuant to 14 CCR § 914.7(b) [934.7(b),
5 954.7(b)]. The winter period operating plan shall specifically
6 address, where applicable, proposed logging road and landing use.

7 (4) Grading of logging roads or landings to obtain a drier
8 running surface more than one time before reincorporation of any
9 resulting berms back into the road surface is prohibited.

10 ~~Routine use and maintenance of roads and landings shall not take~~
11 ~~place when, due to general wet conditions, equipment cannot operate~~
12 ~~under its own power. Operations may take place when roads and landings~~
13 ~~are generally firm and easily passable or during hard frozen~~
14 ~~conditions. Isolated wet spots on these roads or landings shall be~~
15 ~~rocked or otherwise treated to permit passage. However, operations and~~
16 ~~maintenance shall not occur when sediment discharged from landings or~~
17 ~~roads will reach watercourses or lakes in amounts deleterious to the~~
18 ~~quality and beneficial uses of water. This section shall not be~~
19 ~~construed to prohibit activities undertaken to protect the road or to~~
20 ~~reduce erosion.~~

21
22 **Amend § 923.7, 943.7, 963.7 Maintenance and Monitoring for Logging**
23 **Roads and Landings Licensed Timber Operator Responsibility for Roads**
24 **and Landings**

25 The following maintenance and monitoring standards shall apply to
logging roads and landings:

Deleted: (4) Concurrent with use for log hauling or other heavy equipment uses, all traveled surfaces of logging roads in a WLPZ, and ELZ or EEZ designated for watercourse or lake protection, shall be treated for erosion control as needed to minimize soil erosion and sediment transport and to prevent significant sediment discharge to watercourses or lakes.

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1 (a) Logging road and landing surfaces shall be monitored and
2 maintained during timber operations and throughout the prescribed
3 maintenance period to minimize soil erosion and sediment transport and
4 to prevent deposition of sediment in quantities that violate Water Quality
5 Requirements.

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6 (b) Logging roads and landing shall be maintained to be
7 hydrologically disconnected from watercourses and lakes to the extent
8 feasible.

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9 (c) Logging roads that are used in connection with stocking
10 activities shall be maintained throughout such use, even if this
11 extends beyond the prescribed maintenance period.

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12 (d) Maintenance treatments to the running surfaces of logging roads
13 and landing surfaces shall be described in the plan , if applicable, and
14 may include, but not be limited to, rocking, watering, paving,
15 chemically treating, or installing commercial erosion control devices
16 to manufacturer's specifications.

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17 (e) Drainage facilities and drainage structures, including associated
18 necessary protective structures, shall be maintained to allow free
19 flow of water and minimize soil erosion. They shall be repaired,
20 replaced, or installed when needed to protect the quality and
21 beneficial uses of water.

Deleted: (1) In watersheds with listed anadromous salmonids and in planning watersheds immediately upstream of, and contiguous to, any watershed with listed anadromous salmonids grading of logging roads or landings to obtain a drier running surface more than one time before reincorporation of any resulting berms back into the road surface is prohibited.

22 (f) Waterbreaks shall be maintained as specified in 14 CCR § 914.6
23 [934.6, 954.6] subsection (h).

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24 (g) Soil stabilization treatments on logging road or landing cuts,
25 fills, and sidecast shall be maintained and reapplied as needed to

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1 minimize soil erosion and sediment transport and to prevent deposition
2 of sediment in quantities that violate Water Quality Requirements.

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3 (h) Actions shall be taken as needed to reduce the potential for
4 failures of cuts, fills, or sidecast that could result in deposition of
5 sediment in quantities that violate Water Quality Requirements. However, to
6 prevent such failures, as discussed elsewhere in these Rules, proposed cuts
7 and proposed fills shall be addressed by a geotechnical engineer/certified
8 engineering geologist, and sidecast shall be prohibited in areas where it may
9 cause significant sediment discharge.

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10 (i) Heavy equipment shall not be used in a WLPZ for maintenance
11 during wet weather, except in emergencies to protect the road, to
12 reduce erosion, to protect water quality, or in response to public
13 safety needs.

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14 (j) Where deposition of sediment in quantities that violate Water Quality
15 Requirements, is present along a logging road or landing used for timber
16 operations, additional drainage facilities and structures shall be
17 installed as needed to minimize soil erosion and sediment transport
18 and to prevent deposition of sediment in quantities that violate Water
19 Quality Requirements.

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20 (k) The prescribed maintenance period for erosion controls on
21 permanent and seasonal logging roads and associated landings and
22 drainage structures, including private appurtenant, abandoned, and
23 deactivated logging roads and landings shall be at least one year.

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24 The Director may prescribe a maintenance period extending up to three
25 years in accordance with 14 CCR § 1050.

1 (1) In watersheds with listed anadromous salmonids and in
2 planning watersheds immediately upstream of, and contiguous to, any
3 watershed with listed anadromous salmonids, the ~~prescribed~~ maintenance
4 period on permanent and seasonal logging roads and associated
5 landings, including appurtenant, abandoned, and deactivated logging
6 roads and landings shall be three years.

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14 CCR § 923.8 [943.8,
963.8]

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7 OPTION 2: (1) In watersheds with listed anadromous salmonids and in
8 planning watersheds immediately upstream of, and contiguous to, any
9 watershed with listed anadromous salmonids, the erosion control
10 maintenance period on permanent and seasonal logging roads and
11 associated landings ~~that are not abandoned or deactivated in~~
12 accordance with 14 CCR § 923.8 [943.8, 963.8] shall be three years.

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13 (1) All Logging roads, including abandoned, deactivated, and private
14 appurtenant roads, landings, and associated drainage structures used
15 for timber operations shall be monitored as needed to comply with 14
16 CCR § 1050. Monitoring inspections shall be conducted, when access is
17 feasible during the prescribed maintenance period, at least once
18 annually during the extended wet weather period, particularly after
19 large winter storm events, to ensure that drainage facilities and
20 structures are properly functioning as designed. "Large winter storm
21 event" shall be defined in the plan and subject to approval by the director.

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number of times

22 (1) Inspections shall include checking drainage facilities and
23 structures for evidence of invert perforation (holes in the bottom of
24 CMP's), and evidence of water flowing under the culvert and through the fill
25 thereby increasing the risk of fill failure, downcutting, plugging,
overtopping, loss of function, and sediment delivery to Class I, II,

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1 or III watercourses and lakes. If evidence of sediment delivery or
2 potential sediment delivery is present, and the implementation of
3 feasible corrective measures could reduce the potential for deposition
4 of sediment in quantities that violate Water Quality Requirements, such
5 additional measures shall be implemented at the first opportunity to
6 repair the site without causing additional environmental harm. If
7 corrective measures are implemented to reduce the potential for a significant
8 sediment discharge, then notice of such measures shall be provided to the
9 Department. **OPTION 2:** ...such additional measures shall be implemented
10 when feasible and prior to the prescribed maintenance period.

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11 (2) Inspections conducted pursuant to California Regional Water
12 Quality Control Board requirements may be used to satisfy the
13 inspection frequency requirements of this section.

14 (3) Documentation of the inspections made per paragraphs (1) or (2)
15 above, or both, shall be available upon request by the Department.

16 (4) The licensed timber operator is responsible for inspection of
17 erosion controls during the prescribed maintenance period until the work
18 completion report as described in Public Resources Code Section 4585 is
19 approved by the Director. The landowner is responsible for inspection of
20 erosion controls during the remainder of the prescribed maintenance period.

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21 (m) In watersheds with listed anadromous salmonids, water drafting
22 for timber operations shall:

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23 (1) Comply with Fish and Game Code Section 1600, et seq. Timber
24 operations conducted under a Fish and Game Code Section 1600 Master
25 Agreement for Timber Operations that includes water drafting may
provide proof of such coverage for compliance with 14 CCR 923.7(1).

1 (2) Describe the water drafting site conditions and proposed
2 water drafting activity in the plan, including:

3 (A) A general description of the conditions and proposed
4 water drafting;

5 (B) The watercourse classification;

6 (C) The drafting parameters including the months the site
7 is proposed for use; estimated total volume needed per day; estimated
8 maximum instantaneous drafting rate and filling time; and disclosure
9 of other water drafting activities in the same watershed;

10 (D) The estimated drainage area (acres) above the point of
11 diversion;

12 (E) The estimated unimpeded streamflow, pumping rate, and
13 drafting duration,

14 (F) a discussion of the effects on aquatic habitat
15 downstream from the drafting site(s) of single pumping operations, or
16 multiple pumping operations at the same location, and at other
17 locations in the same watershed;

18 (G) A discussion of proposed alternatives and measures to
19 prevent adverse effects to fish and wildlife resources, such as
20 reducing hose diameter; using gravity-fed tanks instead of truck
21 pumping; reducing the instantaneous or daily intake at one location;
22 describing allowances for recharge time; using other dust palliatives;
23 and drafting water at alternative sites;

24 (H) The methods that will be used to measure source
25 streamflow prior to the water drafting operation and the conditions
that will trigger streamflow to be measured during the operation.

1 (3) All water drafting for timber operations are subject to each
2 requirement below unless the Department of Fish and Game modifies the
3 requirement in the Lake or Streambed Alteration agreement that
4 authorized the drafting operation, or unless otherwise specified
5 below:

6 (A) All intakes shall be screened to prevent impingement of
7 juvenile fish against the screen. The following requirements apply to
8 screens and water drafting on Class I waters:

9 (i) Openings in perforated plate or woven wire mesh
10 screens shall not exceed 3/32 inches (2.38 millimeters). Slot
11 openings in wedge wire screens shall not exceed 1/16 inches (1.75
12 millimeters).

13 (ii) The screen surface shall have at least 2.5
14 square feet of openings submerged in water.

15 (iii) The drafting operator shall regularly inspect,
16 clean, and maintain screens to ensure proper operation whenever water
17 is drafted.

18 (iv) The approach velocity (water moving through the
19 screen) shall not exceed 0.33 feet/second.

20 (v) The diversion rate shall not exceed 350 gallons
21 per minute.

22 (B) Approaches and associated drainage features to drafting
23 locations within a WLPZ or channel zone shall be surfaced with rock or
24 other suitable material to minimize generation of sediment.

25 (C) Barriers to sediment transport, such as straw wattles,
logs, straw bales or sediment fences, shall be installed outside the

1 normal high water mark to prevent sediment delivery to the watercourse
2 and limit truck encroachment.

3 (D) Water drafting trucks parked on streambeds,
4 floodplains, or within a WLPZ shall use drip pans or other devices
5 such as adsorbent or absorbent blankets, sheet barriers or other
6 materials as needed to prevent soil and water contamination from motor
7 oil or hydraulic fluid leaks.

8 (E) Bypass flows for Class I watercourses shall be provided
9 in volume sufficient to avoid dewatering the watercourse and maintain
10 aquatic life downstream, and shall conform to the following standard:

11 (i) Bypass flows in the source stream during
12 drafting shall be at least 2 cubic feet per second.

13 (ii) Diversion rate shall not exceed 10 percent of
14 the surface flow.

15 (iii) Pool volume reduction shall not exceed 10
16 percent.

17 (F) The drafting operator shall keep a log that records for
18 each time water is drafted, the date, total pumping time, pump rate,
19 starting time, ending time, and volume diverted. Logs shall be filed
20 with the Department of Forestry and Fire Protection at the end of
21 seasonal operations and maintained with the plan record. This
22 requirement may be modified in the approved plan that covers the water
23 drafting, but only with concurrence from the Department of Fish and
24 Game.

25 (G) Before commencing any water drafting operation, the RPF
and the drafting operator shall conduct a pre-operations field review

1 to discuss the water drafting measures in the plan and/or Lake or
2 Streambed Alteration Agreement.

3 ~~The licensed timber operator who is responsible for the implementation~~
4 ~~or execution of the plan shall not be responsible for the construction~~
5 ~~and maintenance of roads and landings, unless the licensed timber~~
6 ~~operator is employed for that purpose.~~

7
8 **Amend § 923.8[943.8, 963.8]. Planned Abandonment and Deactivation of**
9 **Logging Roads, Watercourse Crossings, and Landings.**

10 All logging roads and landings that are proposed to be removed from
11 the permanent road network shall be abandoned. All temporary logging
12 roads and landings that are to remain a part of the permanent road
13 network shall be deactivated prior to the winter period or upon
14 completion of timber operations, whichever comes first. Other logging
15 roads and landings proposed to be deactivated shall comply with the
16 standards specified in this section. Where abandonment or
17 deactivation is required or proposed, specific measures used to apply
18 the following general requirements shall be described in the plan:

19 (a) All abandoned and deactivated logging roads shall be left in a
20 condition that provides for long-term, maintenance-free, and properly
21 functioning drainage and erosion controls.

22 (b) Soil exposed by abandonment or deactivation operations on cuts,
23 fills, and sidecast shall be stabilized as needed during and upon
24 completion of abandonment or deactivation operations to minimize soil
25 erosion and sediment transport and to prevent deposition of sediment in
quantities that violate Water Quality Requirements.

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1 (c) Logging road and landing surfaces shall be graded or shaped where
2 needed to disperse runoff and avoid sediment discharge to a watercourse.

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3 (d) Fills or sidecast shall be removed where site conditions indicate
4 that there is a reasonable potential for perched materials to enter a
5 watercourse or lake and result in a deposition of sediment in quantities
6 that violate Water Quality Requirements. The exposed surface shall be armored
7 with boulders/rip-rap-sized rock.

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8 (e) Logging road watercourse crossings, other drainage structures,
9 and associated fills shall be removed and stabilized in accordance
10 with 14 CCR § 923.17 [943.17, 963.17] subsections (a)-(c). Where the
11 RPF determines it is not feasible to remove drainage structures and
12 associated fills, the RPF shall explain and justify why it is not
13 feasible, how the potential for soil erosion and sediment transport
14 will be minimized, and how deposition of sediment in quantities that
15 violate Water Quality Requirements will be prevented.

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16 (f) Logging roads to be abandoned or deactivated shall be closed at
17 the time of abandonment and blocked prior to the winter period so that
18 standard production four wheel-drive highway vehicles cannot pass the
19 point of closure at the time of abandonment or deactivation. If the
20 logging road is to be abandoned, then the blockage design shall be
21 described in the plan.

22 ~~Abandonment of roads, watercourse crossings and landings shall be~~
23 ~~planned and conducted in a manner which provides for permanent~~
24 ~~maintenance free drainage, minimizes concentration of runoff, soil~~
25 ~~erosion and slope instability, prevents unnecessary damage to soil~~
~~resources, promotes regeneration, and protects the quality and~~

1 ~~beneficial uses of water. General abandonment procedures shall be~~
2 ~~applied in a manner which satisfies this standard and include the~~
3 ~~following:~~

4 ~~(a) Blockage of roads so that standard production four wheel drive~~
5 ~~highway vehicles cannot pass the point of closure at the time of~~
6 ~~abandonment.~~

7 ~~(b) Stabilization of exposed soil on cuts, fills, or sidecast where~~
8 ~~deleterious quantities of eroded surface soils may be transported in a~~
9 ~~watercourse.~~

10 ~~(c) Grading or shaping of road and landing surfaces to provide~~
11 ~~dispersal of water flow.~~

12 ~~(d) Pulling or shaping of fills or sidecast where necessary to prevent~~
13 ~~discharge of materials into watercourses due to failure of cuts,~~
14 ~~fills, or sidecast.~~

15 ~~(e) Removal of watercourse crossings, other drainage structures, and~~
16 ~~associated fills in accordance with 14 CCR 923.3(d). Where it is not~~
17 ~~feasible to remove drainage structures and associated fills, the fill~~
18 ~~shall be excavated to provide an overflow channel which will minimize~~
19 ~~erosion of fill and prevent diversion of overflow along the road~~
20 ~~should the drainage structure become plugged.~~

21 ~~The Director may approve an exception to a requirement set forth in~~
22 ~~(b) through (e) above when such exceptions are explained and justified~~
23 ~~in the THP and the exception would provide for the protection of the~~
24 ~~beneficial uses of water or control erosion to a standard at least~~
25 ~~equal to that which would result from the application of the standard~~
~~rule.~~

Amend § 923.9 [943.9, 963.9]. Licensed Timber Operator Responsibility
for Logging Roads and Landings. Roads and Landings in Watersheds with
Listed Anadromous Salmonids

The licensed timber operator who is responsible for the
implementation or execution of the plan shall be responsible for the
construction and maintenance of logging roads and landings, unless
another licensed timber operator is employed for that purpose and
included in the plan as the responsible party.

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~~In addition to all other district Forest Practice Rules, the following
requirements shall apply in any planning watershed with listed
anadromous salmonids:~~

~~(a) Where logging road or landing construction or reconstruction is
proposed, the plan shall state the locations of, and specifications
for, logging road or landing abandonment or other mitigation measures
to minimize the adverse effects of long term site occupancy of the
transportation system within the watershed.~~

~~(b) Unless prohibited by existing contracts with the U.S.D.A. Forest
Service or other federal agency, new and reconstructed logging roads
shall be no wider than a single lane compatible with the largest type
of equipment specified for use on the road, with adequate turnouts
provided as required for safety. The maximum width of these roads
shall be specified in the plan. These roads shall be outsloped where
feasible and drained with water breaks or rolling dips (where the road
grade is inclined at 7 percent or less), in conformance with other
applicable Forest Practice Rules.~~

~~(c) The following shall apply on slopes greater than 50% that have access to a watercourse or lake:~~

~~(1) Specific provisions of construction shall be identified and described for all new roads.~~

~~(2) Where cutbank stability is not an issue, roads may be constructed as a full benched cut (no fill). Spoils not utilized in road construction shall be disposed of in stable areas with less than 30 percent slope and outside of any WLPZ, EEZ, or ELZ designated for watercourse or lake protection. The Director, with concurrence from other responsible agencies, may waive inclusion of these measures where the RPF can show that slope depressions and other natural retention and detentions feature are sufficient to control overland transport of eroded material.~~

~~(3) Logging roads may be constructed with balanced cuts and fills: if~~

~~(A) Properly engineered, or~~

~~(B) Fills are removed and the slopes recontoured prior to the winter period.~~

~~(d) In addition to the provisions listed under 14 CCR § 923.1 [943.1, 963.1], subsection (c), all permanent or seasonal logging roads with a grade of 15% or greater that extend 500 continuous feet or more shall have specific erosion control measures stated in the plan.~~

~~(e) Where logging road networks are remote or are located where the landscape is unstable, where crossing fills over culverts are large, or where logging road watercourse crossing drainage structures and erosion control features historically have a high failure rate, drainage structures and erosion control features shall be oversized,~~

designed for low maintenance, reinforced, or removed before the
completion of the timber operation. The method of analysis and the
design for crossing protection shall be included in the plan.

~~(f)~~ Except when expressly required by 14 CCR § 923.9 [943.9, 963.9],
subsections (f)(1) (5) below, the provisions of 14 CCR § 923.9 [943.9,
963.9] shall not apply to a plan that is subject to:

~~(1)~~ a valid incidental take permit issued by DFG pursuant to Section
2081(b) of the Fish and Game Code that addresses anadromous salmonid
protection; or

~~(2)~~ a federal incidental take statement or incidental take permit that
addresses anadromous salmonid protection, for which a consistency
determination has been made pursuant to Section 2080.1 of the Fish and
Game Code; or

~~(3)~~ a valid natural community conservation plan that addresses
anadromous salmonid protection approved by DFG under section 2835 of
the Fish and Game Code; or

~~(4)~~ a valid Habitat Conservation Plan that addresses anadromous
salmonid protection, approved under Section 10 of the federal
Endangered Species Act of 1973; or

~~(5)~~ project revisions, guidelines, or take avoidance measures pursuant
to a memorandum of understanding or a planning agreement entered into
between the plan submitter and DFG in preparation of obtaining a
natural community conservation plan that addresses anadromous salmonid
protection.

Amend 923.9.1 [943.9.1]. Measures for Roads and Landings in Watersheds with Coho Salmon.

~~In addition to all other district Forest Practice Rules, the regulations in 14 CCR §§ 923.3 [949.3] and 923.9 [943.9] as amended and effective on January 1, 2010 shall apply in any planning watershed with coho salmon.~~

Adopt § 923.10 [943.10, 963.10]. Planning for Logging Road Watercourse Crossings.

The following planning standards shall apply to logging road watercourse crossings:

(a) Logging road watercourse crossings shall be planned and located within the context of a systematic logging road layout pattern.

(b) Logging road watercourse crossings shall be planned in a manner that is consistent with their proposed use.

(c) The number of logging road watercourse crossings shall be kept to a feasible minimum.

(d) Existing logging road watercourse crossing locations shall be utilized where feasible and appropriate.

(e) Where logging road watercourse crossings are proposed to be constructed or reconstructed in areas where public safety may be affected, the potential public safety impacts shall be disclosed in the plan.

(f) The planning and use of logging road watercourse crossings shall include the evaluation and documentation of potential erosion sites consistent with 14 CCR § 923.1(d) [943.1(d), 963.1(d)].

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1 (g) The RPF shall disclose in the plan how diversion of stream
2 overflow at logging road watercourse crossings will be prevented.

3 (h) All new permanent logging road watercourse crossing culverts to
4 be constructed or to be reconstructed on Class I watercourses, where fish
5 are always or seasonally present or where fish habitat is restorable,
6 and where fish can move upstream of the crossing location either
7 currently or when upstream habitat is restored, shall be planned to
8 allow upstream and downstream passage of fish or listed aquatic
9 species during any life stage and for the natural movement of bedload
10 to form a continuous bed through the culvert.

11 OPTION 2: (h) All new permanent constructed or reconstructed logging
12 road watercourse crossing culverts on Class I watercourses, where fish
13 are always or seasonally present or where fish habitat is restorable,
14 and where fish can move upstream of the crossing location, shall be
15 planned to allow upstream and downstream passage of fish or listed
16 aquatic species during any life stage and for the natural movement of
17 bedload to form a continuous bed through the culvert.

18
19 **Adopt § 923.11, 943.11, 953.11 Logging Road Watercourse Crossing**

20 **Design and Implementation**

21 The following design and implementation standards shall apply to
22 logging road watercourse crossings:

23 (a) All logging road watercourse crossings to be constructed or to be
24 reconstructed shall be designed in accordance with the planned use of
25 the associated logging road.

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1 (b) All logging road watercourse crossings shall be designed to
2 avoid or mitigate potential significant adverse impacts to public
3 safety.

4 (c) All permanent logging road watercourse crossings
5 constructed or to be reconstructed shall be designed to accommodate the
6 estimated 100-year flood flow, including debris and sediment loads.

7 (d) All new and replacement culverts used for logging road
8 watercourse crossings shall be designed to be installed at or slightly
9 below the natural watercourse grade, in alignment with the watercourse
10 channel and of the appropriate length to prevent fill erosion.

11 (e) Where new culverts are proposed for permanent installation at a
12 logging road watercourse crossing, the minimum diameter of the culvert
13 and the method(s) and calculations used to determine the culvert
14 diameter shall be specified in the plan.

15 (f) All necessary protective structures associated with logging road
16 watercourse crossings , such as wing walls, rock-armored headwalls and
17 downspouts, shall be adequately sized to transmit runoff, minimize
18 erosion of crossing fills, and prevent deposition of sediment in
19 quantities that violate Water Quality Requirements.

20 (g) Methods to mitigate or prevent diversion of stream overflow at
21 logging road watercourse crossings, as illustrated in Technical Rule
22 Addendum No. 5, shall be stated in the plan.

23 (1) Ford crossings shall be contoured within the channel so as to avoid
24 headcutting and downcutting of the channel.

25 OPTION 2: (g) Methods to mitigate or prevent diversion of streamflow at
logging road watercourse crossings shall be stated in the plan.

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1 (h) Rock used in the construction or stabilization of permitted ford
2 crossings shall be adequately sized to resist mobilization, with the
3 range of required rock dimensions described in the plan.

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4 OPTION 2: (h) Rock used to stabilize the outlet of fords shall be adequately
5 sized to resist mobilization, with the range of required rock dimensions
6 described in the plan.

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7 (i) Drainage structures at locations on watercourses that support
8 both upstream and downstream movement of fish shall allow for
9 unrestricted passage of all life stages of fish that may be present,
10 and shall be fully described in the plan in sufficient clarity and
11 detail to allow evaluation by the review team and the public, provide
12 direction to the LTO for implementation, and provide enforceable
13 standards for the inspector.

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14 (j) All new permanent logging road watercourse crossing culverts to
15 be constructed and to be reconstructed within Class I watercourses, which
16 meet the criteria for Class I waters where fish are always or
17 seasonally present or where fish habitat is restorable, shall include
18 the analysis and specifications that document conformance with 14 CCR
19 § 923.10 [943.10, 963.10]subsection (h).

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reconstructed

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20 (k) Where logging road networks are remote or are located where the
21 landscape is unstable (as identified by a certified engineering geologist),
22 where crossing fills over culverts are large, or where logging road
23 watercourse crossing drainage structures and erosion control features
24 historically have a high failure rate, drainage structures and erosion
25 control features shall be oversized, designed for low maintenance,
reinforced, or removed before the completion of the timber operation.

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1 (1) In watersheds with listed anadromous salmonids, for Class I
2 watercourses, where fish are always or seasonally present or where
3 fish habitat is restorable, any plan involving timber operations
4 within the WLPZ shall contain the following information:

5 (1) A description of all existing permanent logging road
6 watercourse crossings.

7 (2) Clear and enforceable specifications describing how these
8 crossings are to be modified, used, and treated to minimize risks,
9 giving special attention to allowing fish to pass both upstream and
10 downstream during all life stages and in conformance with the
11 standards of subsection (k) above and 14 CCR § 923.10[943.10,
12 963.10]subsection (h).

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13 (3) Clear and enforceable specifications for construction and
14 operation of any new crossing(s) of a Class I watercourse to prevent
15 direct harm, habitat degradation, water velocity increase, hindrance
16 of fish passage at all life stages, or other potential impairment of
17 beneficial uses of water.

18 (m) In watersheds with listed anadromous salmonids, in addition to
19 the requirements of 14 CCR § 923.11 [943.11, 963.11] subsection (l),
20 the method of analysis and the design for crossing protection shall be
21 included in the plan.

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22
23 **Adopt § 923.12[943.12, 963.12]. Logging Road Watercourse Crossing**
24 **Mapping and Identification.**

25 The following mapping and identification standards shall apply to
logging road watercourse crossings:

1 (a) For logging road watercourse crossing-related mapping
2 requirements refer to 14 CCR §§ 1034(x)(6)(A)-(C), 1090.5(w)(7),
3 1090.7(n)(7), and 1092.09(1)(7)(A)-(C).

4 (b) The location of all logging road watercourse crossings to be
5 constructed or reconstructed shall be flagged or otherwise identified
6 on the ground prior to the pre-harvest inspection. Exceptions may be
7 explained and justified in the plan and agreed to by the Director if
8 flagging is unnecessary as a substantial aid to examining possible
9 significant adverse effects of the crossing location on the factors
10 listed under 14 CCR § 923 [943], 963]subsection (b).

11
12
13 **Adopt § 923.13 [943.13, 963.13]. Logging Road Watercourse Crossing**
14 **Construction and Reconstruction.**

15 The following construction and reconstruction standards shall apply to
16 logging road watercourse crossings:

17 (a) Where applicable, logging road watercourse crossing construction
18 and reconstruction shall comply with the conditions of required DFG
19 1600 agreements.

20 (b) All permanent logging road watercourse crossings to be constructed
21 or to be reconstructed shall accommodate the 100-year flood flow,
22 including debris and sediment loads.

23 (c) All new and replacement culverts used for logging road
24 watercourse crossings shall be installed at or slightly below the
25 natural watercourse grade and in alignment with the watercourse
channel. For Class I watercourses where fish are always or seasonally

Deleted: (b) For logging road watercourse crossing-related disclosure and description requirements refer to 14 CCR §§ 1034(ii)(1)-(2) and (4), 1034(kk)(4)(A), 1034(ll) and 1034(mm).

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present or where fish habitat is restorable, and where fish can move upstream of the crossing location, new and replacement culverts shall be installed below grade and in alignment with the watercourse channel to allow upstream and downstream passage of fish or listed aquatic species during any life stage and natural movement of bedload to form a continuous bed through the culvert and shall be in conformance the design specified in 14 CCR § 923.11 [943.11,963.11] subsection (j) and with conditions of required DFG 1600 agreements specified in subsection (a) above.

(d) Fills for logging road watercourse crossings to be constructed or to be reconstructed shall be thoroughly compacted in approximately one-foot lifts during installation. The face of crossing fills shall be no greater than 50 percent (2:1, horizontal to vertical) unless acceptable recommendations from a geotechnical engineer are prepared and approved.

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OPTION 2: ...The face of crossing fills shall be no greater than 67 percent (1.5:1, horizontal to vertical)

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(e) Logging road watercourse crossings shall not discharge water onto erodible fill or other erodible material without the installation of effective energy dissipators and other necessary protective structures.

(f) Where water is flowing at the time of logging road watercourse crossing construction or reconstruction, necessary protective structures shall be concurrently installed. [Commenter states: "The intent for this language is very unclear. This section would be

improved it included specific examples of necessary protective measures (e.g. coffer dams, etc).]

(g) Where a significant volume of sediment is stored upstream from a logging road watercourse crossing that is proposed to be reconstructed, the stored sediment shall be removed or stabilized, to the extent feasible, as described in the plan and in conformance with the conditions of required DFG 1600 agreements, where applicable.

(h) Critical dips shall be incorporated into the construction or reconstruction of logging road watercourse crossings utilizing culverts, except where diversion of overflow is prevented by other methods stated in the plan.

(i) Logging road watercourse crossings shall not be constructed or reconstructed under saturated soil conditions or when such activities could result in deposition of sediment in quantities that violate Water Quality Requirements.

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(j) Where conditions are encountered during logging road watercourse crossing construction or reconstruction that differ from what was anticipated during the preparation and review of the plan and that will result in a significant adverse impact on the environment or to public safety, the LTO shall notify the RPF or plan submitter of these unanticipated conditions in accordance with 14 CCR § 1035.3.

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(k) Logging road watercourse crossings shall be installed no later than October 15, except where logging road construction or reconstruction takes place from October 15 to November 15 or from April 1 to May 1 where logging road watercourse crossings shall be installed concurrent with the activity.

1 (1) Logging road watercourse crossings shall not be installed during
2 the winter period, except as specified in an approved winter period
3 operating plan per 14 CCR § 914.7(b) [934.7(b), 954.7(b)].

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4 (m) Excavated material and cut banks resulting from construction or
5 reconstruction which has access to a watercourse shall be sloped back
6 from the channel to prevent slumping, to minimize soil erosion and
7 where needed, stabilized per 14 CCR § 923.14 [943.14,
8 963.14]subsection (b).

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9 (n) In watersheds with listed anadromous salmonids and in planning
10 watersheds immediately upstream of, and contiguous to, any watershed
11 with listed anadromous salmonids, during the extended wet weather
12 period no timber operations shall take place unless the approved plan
13 incorporates a complete winter period operating plan pursuant to 14 CCR
14 § 914.7(b) [934.7(b), 954.7(b)].The winter period operating plan shall
15 specifically address, where applicable, proposed logging road
16 watercourse crossing construction or reconstruction. Where logging
17 road watercourse crossing construction or reconstruction is proposed an
18 implementation schedule shall be specified.

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19
20 **Adopt § 923.14 [943.14, 963.14]. Logging Road Watercourse Crossing**
21 **Erosion Control.**

22 (a) The following drainage standards shall apply to logging road
23 watercourse crossings:

24 (1) Adequate surface drainage at logging road watercourse
25 crossings shall be provided through the use of logging road surface
shaping in combination with the installation of drainage facilities,

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ditch drains, or other necessary protective structures to hydrologically disconnect the road from the crossing as illustrated in Technical Rule Addendum No. 5.

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OPTION 2: (1) Adequate surface drainage at logging road watercourse crossings shall be provided through the use of surface geometry configurations in combination with the installation of drainage facilities, ditch drains, or other necessary protective structures to hydrologically disconnect the road from the crossing to the extent feasible prevent significant sediment discharge.

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(2) Drainage facilities and ditch drains shall be installed in proximity to logging road watercourse crossings, as needed, to hydrologically disconnect the logging road approach from the crossing as illustrated in Technical Rule Addendum No. 5, to minimize soil erosion and sediment transport and to prevent deposition of sediment in quantities that violate Water Quality Requirements during and upon completion of timber operations. See 14 CCR § 923.5(d)-(j) (a)-(i) [943.5(d)-(j) (a)-(i), 963.5(d)-(j) (a)-(i)].

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(3) Drainage facilities installed adjacent to logging road watercourse crossings shall be located to avoid discharging concentrated runoff onto fills, erodible soils, unstable areas, and both connected and non-connected headwall swales.

(b) The following stabilization standards shall apply to logging road watercourse crossings:

(1) Bare soil on fills or sidecast associated with logging road watercourse crossings that are created or exposed by timber operations shall be stabilized to the extent necessary to minimize soil erosion

1 and sediment transport and to prevent deposition of sediment in quantities
2 that violate Water Quality Requirements.

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3 Erosion control measures for the traveled surface of roads are
4 specified in 14 CCR §§ 923.5 [943.5, 963.5] and 923.7 [943.7, 963.7].

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5 (2) Soil stabilization measures shall be described in the plan
6 and may include, but are not limited to, rocking of road approaches
7 and other erodible surfaces, removal, armoring with rip-rap,

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8
9 replanting, mulching, seeding, installing commercial erosion control
10 devices to manufacturer's specifications, or chemical stabilizers.

11 OPTION 2:(2) Soil stabilization measures shall be described in the
12 plan and may include, but are not limited to removal, armoring with
13 rip rap, replanting, mulching, seeding, installing commercial erosion
14 control devices to manufacturer's specifications, or chemical
15 stabilizers and shall rely on maintenance free protections of proven
16 effectiveness such as armoring with boulders.

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17 (3) Soil stabilization treatments shall be in place upon
18 completion of operations for the year of use or prior to the extended
19 wet weather period, whichever comes first. An exception is that bare
20 areas created during the extended wet weather period shall be treated
21 prior to the start of rain that generates overland flow, within 10 days or
22 as agreed to by the Director.

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23 OPTION 2:(3) Soil stabilization treatments shall be in place upon completion
24 of operations for the year of use or prior to the extended wet weather
25 period, whichever comes first. An exception is that bare areas created ~~after~~
during the extended wet weather operating period shall be treated prior to

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the start of rain that generates overland flow, or within 10 days, whichever is sooner, or as agreed to by the Director.

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(4) In watersheds with listed anadromous salmonids and in planning watersheds immediately upstream of, and contiguous to, any watershed with listed anadromous salmonids, within the WLPZ and within any ELZ or EEZ designated for watercourse or lake protection or where significant discharge may extend beyond the WLPZ, treatments to stabilize soils, minimize soil erosion, and prevent deposition of sediment in quantities that violate Water Quality Requirements, shall be described in the plan as follows:

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(A) In addition to the requirements of subsections (b)(1)-(3), soil stabilization is required for the following:

(i) Areas exceeding 100 continuous square feet where timber operations have exposed bare soil.

(ii) Disturbed logging road watercourse crossing cut banks and fills, and

(iii) Any other area of disturbed soil that threatens to cause deposition of sediment in quantities that violate Water Quality Requirements.

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(B) Where straw mulch is used, the minimum straw coverage shall be 90 percent with a minimum depth of 3 inches, and any treated area that has been reused or has less than 90 percent surface cover shall be treated again by the end of timber operations.

(C) Where slash mulch is packed into the ground surface through the use of a tractor or equivalent piece of heavy equipment the minimum slash coverage shall be 75 percent of the exposed surface

1 area and with 75 percent minimum surface contact of the exposed
2 surface area.

3 (D) For areas disturbed outside the extended wet weather
4 period, treatment shall be completed prior to the start of any rain
5 that causes overland flow across or along the disturbed surface that
6 could result in deposition of sediment in quantities that violate Water
7 Quality Requirements.

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discharge

8 (E) For areas disturbed during the extended wet weather
9 period, treatment shall be completed prior to any day for which a
10 chance of rain of 30 percent or greater is forecast by the National
11 Weather Service or within 10 days of disturbance, whichever is
12 earlier.

13
14 **Adopt § 923.15 [943.15, 963.15]. Logging Road Watercourse Crossing**
15 **Use.**

16 Logging road watercourse crossings shall be used in a manner that is
17 consistent with the design, construction, and maintenance of the
18 logging road along which they have been constructed (Refer to 14 CCR
19 §§ 923.2 [943.2, 963.2], 923.4 [943.4, 963.4], 923.6 [943.6, 963.6],
20 and 923.7 [943.7, 963.7]).

21
22 **Adopt § 923.16 [943.16, 963.16]. Logging Road Watercourse Crossing**
23 **Maintenance and Monitoring.**

24 The following maintenance and monitoring standards shall apply to
25 logging road watercourse crossings:

1 (a) Logging road watercourse crossings shall be maintained as
2 designed, constructed, and reconstructed during timber operations and
3 throughout the prescribed maintenance period.

4 (b) Logging road watercourse crossings that are used in connection
5 with stocking activities shall be maintained throughout such use, even
6 if this extends beyond the prescribed maintenance period.

7 (c) Soil stabilization treatments on logging road watercourse
8 crossing fills shall be maintained to prevent soil erosion and
9 deposition of sediment in quantities that violate Water Quality Requirements.

10 (d) Logging road watercourse crossings, including those on abandoned,
11 deactivated, and private appurtenant roads used for timber operations,
12 shall be monitored, as needed, to comply with 14 CCR § 1050.

13 Monitoring inspections shall be conducted, when access is feasible
14 during the prescribed maintenance period, at least once annually and a
15 sufficient number of times during the extended wet weather period,
16 particularly after large winter storm events, to ensure that
17 watercourse crossings are properly functioning as designed. "Large
18 winter storm event" shall be defined in the plan and subject to approval by
19 the director.

20 (1) Inspections shall include checking watercourse crossings for
21 evidence of downcutting, plugging, overtopping, loss of function,
22 invert perforation and evidence of water flowing under the culvert and
23 through the fill increasing the risk of fill failure, and sediment
24 delivery to Class I, II, or III watercourses and lakes. If evidence of
25 sediment delivery or potential sediment delivery is present, and the

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Deleted: (d) The plan shall identify measures to be used to reduce sediment delivery from logging road watercourse crossings where evidence of erosion and significant sediment discharge is present.

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1 implementation of feasible corrective measures could reduce the
2 potential for deposition of sediment in quantities that violate Water
3 Quality Requirements, such additional measures shall be implemented at
4 the first opportunity to repair the site without causing additional
5 environmental harm. If corrective measures are implemented to reduce the
6 potential for a significant sediment discharge, then notice of such measures
7 shall be provided to the Department.

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8 (2) Inspections conducted pursuant to California Regional Water
9 Quality Control Board requirements may be used to satisfy the
10 inspection requirements of this section.

11 (3) Documentation of the inspections made per paragraphs (1) or (2)
12 above, or both, shall be available upon request by the Department.

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13 (e) Drainage structures and associated necessary protective
14 structures shall be maintained, repaired, and replaced as needed to
15 minimize crossing blockage and to provide for adequate capacity.

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16 (f) In watersheds with listed anadromous salmonids and in planning
17 watersheds immediately upstream of, and contiguous to, any watershed
18 with listed anadromous salmonids, the prescribed maintenance period on
19 logging road watercourse crossings, including those on private
20 appurtenant, abandoned, and deactivated logging roads, shall be three
21 years.

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14 CCR § 923.8 [943.8,
963.8]

23 **Adopt § 923.17[943.17, 963.17] Logging Road Watercourse Crossing**
24 **Removal.**

25 All logging road watercourse crossings that are proposed by the plan
submitter to be removed, including temporary crossings and those along

1 abandoned or deactivated logging roads, shall be removed as described
2 in the plan and shall apply the following standards:

3 (a) Fills shall be excavated to form a channel that is as close as
4 feasible to the natural watercourse grade and orientation and that is
5 wider than the average natural channel, as observed upstream and
6 downstream of the logging road watercourse crossing to be removed.

7 (b) The excavated material and any resulting cut bank shall be no
8 greater than 50 percent (2:1, horizontal to vertical) unless otherwise
9 engineered by a geotechnical engineer from the outside edge of the
10 constructed channel to prevent slumping, to minimize soil erosion and
11 sediment transport, and to prevent deposition of sediment in quantities
12 that violate Water Quality Requirements.

13 OPTION 2: (b) The excavated material and any resulting cut bank
14 shall be no greater than 67 percent (1.5:1, horizontal to vertical)
15 from the outside edge of the constructed channel to prevent slumping,
16 to minimize soil erosion and sediment transport, and to prevent
17 significant sediment discharge.

18 (c) Exposed soil associated with logging road watercourse crossing
19 fill removal located between the watercourse crossing's hydrologic
20 divides, including cut banks and excavated material, shall be
21 stabilized during and upon completion of removal operations, as
22 needed, or as otherwise specified in the rules. Soil stabilization
23 measures may include, but are not limited to, armoring with rip-rap,
24 replanting, mulching, seeding, installing commercial erosion control
25 devices to manufacturer's specifications, or other suitable treatment

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discharge

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1 to prevent soil erosion and deposition of sediment in quantities that
2 violate Water Quality Requirements.

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3 (d) Appropriate drainage facilities shall be installed along removed
4 logging road watercourse crossing approaches at locations that
5 minimize the concentration of surface runoff and soil erosion and to
6 prevent deposition of sediment in quantities that violate Water Quality
7 Requirements.

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8 (e) Where the RPF determines it is not feasible to remove a logging
9 road watercourse crossing or its associated fill to the above
10 standards, the RPF shall explain and justify why it is not feasible
11 and identify in the plan how soil erosion and deposition of sediment in
12 quantities that violate Water Quality Requirements will be prevented.

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13 (f) Where a significant volume of sediment is stored upstream from a
14 logging road watercourse crossing that is proposed to be removed, the
15 stored sediment shall be removed or stabilized, to the extent
16 feasible, as described in the plan and in conformance with required
17 DFG 1600 agreements, where applicable.

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18 (g) All logging road watercourse crossings, if not adequate to carry
19 water from the one hundred-year flood level, shall be removed upon
20 completion of use, prior to the winter period or as specified in the
21 applicable DFG 1600 agreement, whichever is earlier, or as otherwise
22 specified in the plan. Properly functioning drainage structures on roads

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23 that existed before timber operations need not be removed. An RPF may
24 utilize an alternative practice, such as breaching of fill, if the practice
25 is approved by the Director as providing greater or equal protection to water
quality as removal of the drainage structure.

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1 (h) Where the removal of an individual logging road watercourse
2 crossing eliminates access to other temporary crossings, all such
3 crossings shall be removed in a manner that facilitates an orderly and
4 complete removal process.

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5 (i) If operations are conducted during the winter period, logging road
6 watercourse crossings shall be adequate to carry water from the one hundred-
7 year flood level, unless properly functioning.

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8
9 **Amend § 1034. Contents of Plan.**

10 STAFF NOTE: § 1034(o) WAS NOT INCLUDED IN PREVIOUSLY NOTICED

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11 RULEMAKING PROPOSAL.

12 (o) The number, type, and length of constructed and reconstructed road
13 segments, including an xplanation and location of new roads wider than
14 single lane with turnouts.

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15 ~~*****~~(x) The information in subsections (1)-(4)(A), (5)(A)-(5)(L),
16 (6)(A)-(B), and (7)-(16) shall be clearly shown on a map that is based
17 upon a U. S. Geological Survey topographic quadrangle map, or
18 equivalent, published at a scale of 1:24,000 or smaller. On titled USGS
19 (if available) or equivalent topographic maps of a scale not less than
20 2" to the mile, the information in subsections (1-4), (8), (9), and
21 (11-13) shall be clearly shown. The information in subsections (4)(B),
22 and (6)(C) shall be clearly shown on a topographic map at a scale of
23 1/2 inch equals 1 mile, or larger. Additional maps, which may be
24 topographic or planimetric, may be used to provide the information
25 required in the other subsections, to ~~ex~~ show specific details, and to
improve map clarity. The appurtenant roads referenced in subsection

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~~(4) may be shown on a map which may be planimetric with a scale as small as one half inch equals one mile.~~ Color coding shall not be used. A legend shall be included indicating the meaning of the symbols used to depict operational features on maps. See the district rules for the appropriate minimum mapping acreages.

(1)-(3) [No change]

~~(4) Location of public roads and those private roads to be used for timber operations within the plan area, and private roads appurtenant to the timber operations where such roads are under the ownership or control of the timber owner, timberland owner, timber operator, or submitter of the plan, and classification of all proposed and existing logging roads as permanent, seasonal, or temporary roads.~~
The following logging road- and landing-related features shall be shown on a map of the appropriate type and scale as described in subsection (x) above:

(A) Location of private and public logging roads to be used for timber operations within the harvest area, including private and public logging roads to be used for timber operations within the harvest area, including the classification of all proposed and existing logging roads as permanent, seasonal, temporary, deactivated or abandoned, or proposed for deactivation or abandonment, and those located in watercourses, lakes, WLPZs, marshes, wet meadows, or other wet areas.

(B) Location of private appurtenant roads. This shall include:

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Deleted: logging roads under the ownership or control of the timber owner, timberland owner, timber operator, or plan submitter that will be used for log hauling and that are between the harvest area and the first public road to be used for log hauling.

1 (i) Logging roads and landings located in
2 watercourses, lakes, WLPZs, marshes, wet meadows, or other wet areas,
3 other than at logging road watercourse crossings.

4 (ii) Logging roads and landings proposed for
5 abandonment or deactivation.

6 (iii) Logging roads that provide access to rock pits
7 and water drafting sites and spoils disposal sites.

8 (5) Probable location of proposed and existing landings in the
9 watercourse and lake protection zone, and landings outside the zone
10 that are greater than 1/4 acre in size or whose construction involves
11 substantial excavation. The following shall be mapped at the scale
12 required under subsection (x) for all logging roads and landings to be
13 constructed or to be reconstructed, unless otherwise described:

14 (A) Location of logging road grades greater than 15
15 percent for over 200 continuous feet or logging road grades exceeding
16 20 percent.

17 (B) Location of road failures on existing logging roads to
18 be reconstructed.

19 (C) Location of logging roads across and landings on
20 unstable areas or connected headwall swales (as identified by a certified engineering
21 geologist).

22 (D) Location of logging roads or landings within Class I,
23 II, III, or IV watercourses or lakes, WLPZs, marshes, wet meadows, or
24 other wet areas other than at logging road watercourse crossings.

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logging roads and landings
with insloping, inside ditch
drainage, or crowning in
excess of 300 lineal feet
that drains into a
classified watercourse or
lake.

1 (E) Location of landings that require substantial
2 excavation and landings in excess of one-quarter acre in size.

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3 (F) Location of excess material disposal sites on slopes
4 greater than 40 percent or on active unstable areas.

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5 OPTION 2: (GF) Location of sites on slopes greater than 40 percent or
6 on active unstable areas (as identified by a certified engineering
7 geologist), used for disposal of spoils generated during logging road
8 or landing construction or reconstruction.

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of spoils generated during
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9 (G) Location of logging roads and landings across slopes
10 greater than 65 percent for 100 lineal feet or more.

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11 (H) Location of logging roads and landings across slopes
12 greater than 50 percent for 100 lineal feet or more within 100 feet of
13 the boundary of a WLPZ that drains toward the zoned watercourse or
14 lake.

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15 (I) The location of significant existing or potential
16 erosion sites on logging roads and landings.

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17 (J) Location of existing and proposed water drafting
18 locations.

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listed anadromous salmonids,
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19 (K) Location of any other area(s) where non-standard
20 practices on logging roads or landings are proposed.

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21 (6) The following logging road watercourse crossing-related
22 features shall be shown on a map of the appropriate type and scale as
23 described in subsection (x) above:

24 (A) Location of existing logging road watercourse
25 crossings within the harvest area, including those crossings to be

1 abandoned or deactivated. This requirement may be met by depicting
2 the intersection of a logging road and a watercourse.

3 (B) Location of constructed and reconstructed logging road
4 watercourse crossings within the harvest area, including those
5 crossings to be abandoned or deactivated.

6 (C) Logging road watercourse crossings on private
7 appurtenant roads.

8 ~~(6) Road failures on existing roads to be reconstructed.~~

9 (7) Location of all tractor road watercourse crossings of
10 classified watercourses, including Class III watercourses where the
11 watercourse crossings and equipment operations within the ELZ have not been
12 flagged or marked on the ground prior to the pre-harvest inspection, without
13 flowing water during timber operations at that crossing. Dry Class III
14 watercourse crossings that are connected to a Class II tributary (directly or
15 indirectly) should be inspected in the field by DFG. If the review finds that
16 there is a stream bed or bank alteration then a 1602 permit is required.

17 (8) Location of erosion hazard rating areas, if more than one
18 rating exists.

19 (9) Location of watercourses and lakes with Class I, II, III,
20 or IV waters.

21 (10) Location of known unstable areas or slides.

22 (11) Location of understocked areas prior to timber operations,
23 and other areas not normally bearing timber to at least a 20-acre
24 minimum, or as specified in the district rules.

Deleted: that are not within the harvest area but are under the ownership or control of the owner of the timberland where timber is proposed for harvest and are between the harvest area and the first public road to be used for log hauling that are:

(i) Constructed and reconstructed logging road watercourse crossings that will be used for log hauling.

(ii) Existing logging road watercourse crossings to be abandoned or deactivated.

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1 (12) Location of boundaries of timber-site classes needed for
2 determination of stocking standards to be applied, down to at least a
3 20-acre minimum or as specified in the district rules.

4 (13) Location of main ridge tops on the logging area suitable
5 for fire suppression efforts that will require the felling of snags.

6 (14) Location of Coastal Commission Special Treatment Areas or
7 any special treatment area.

8 (15) Location for which heavy equipment use is proposed on
9 unstable areas, or on areas for which tractor use is proposed beyond
10 the limitations of the standard forest practice rules.

11 (16) Location of any in lieu use of heavy equipment and location
12 of tractor roads ~~other than crossings in the watercourses, lakes~~
13 WLPZs, marshes, wet meadows, and other wet areas.

14 ~~(17) Location of any new or reconstructed road segment(s) that~~
15 ~~exceed an average 15% grade for over 200 feet.~~

16 (aa)- [No change]

17 (bb) Winter period operating plan where appropriate and required that,
18 where applicable, addresses proposed logging road, landing and logging
19 road watercourse crossing construction, reconstruction and use. (Refer to
20 14 CCR § 923.4(k) [943.4(k), 963.4(k)], 923.6(h)(5) [943.6(h)(5),
21 963.6(h)(5)], and 923.13(n) [943.13(n), 963.13(n)]).

22 (cc) Explanation and justification for use of watercourses, marshes,
23 wet meadows, and other wet areas as ~~landings, roads, or skid trails~~
24 tractor roads.

25 (dd)-(ee) [No change]

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~~(ff)~~ Explanation and justification for landings that exceed the maximum size specified in the rules.

~~(gg)~~-(ff) Any other information required by the rules or the Act to be included in the plan. The district rules provide for exceptions and alternatives to standard requirements that require inclusion of information in the THP.

~~(hh)~~ Where roads, watercourse crossings, and associated landings in the logging area will be abandoned, the methods for abandonment shall be described.

~~(ii)~~ On a map complying with subsection 1034(x), the locations and classifications of roads, watercourse crossings, and landings to be abandoned shall be shown.

~~(jj)~~-(gg) A general description of physical conditions at the plan site, including general soils and topography information, vegetation and stand conditions, and watershed and stream conditions.

OPTION 2: (hh) In watersheds with listed anadromous salmonids, the following shall apply:

(1) For Class I watercourses, where fish are always or seasonally present or where fish habitat is restorable, and where fish can move upstream of the crossing location either currently or when upstream habitat is restored, any plan involving timber operations within the WLPZ shall contain the following information:

OPTION 2: (A) Clear and enforceable specifications describing how these crossings are to be modified, used, and treated to minimize risks, giving special attention to allowing fish to pass both upstream and downstream during all life stages and in conformance with the

Deleted: (hh) In watersheds with listed anadromous salmonids, the following shall apply: ¶
(1) For Class I watercourses, where fish are always or seasonally present or where fish habitat is restorable, and where fish can move upstream of the crossing location, any plan involving timber operations within the WLPZ shall contain the following information:¶

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(B) Clear and enforceable specifications for construction and operation of any new crossing(s) of a Class I watercourse to prevent direct harm, habitat degradation, water velocity increase, hindrance of fish passage at all life stages, or other potential impairment of beneficial uses of water. (Refer to 14 CCR § 923.11(k)(2)-(3) [943.11(k)(2)-(3), 963.11(k)(2)-(3)].)¶

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standards of 14 CCR § 923.10(h) [943.10(h), 963.10(h)] and 923.11(j) [943.11(j), 963.11(j)].

(B) Clear and enforceable specifications for construction and operation of any new crossing(s) of a Class I watercourse to prevent direct harm, habitat degradation, water velocity increase, hindrance of fish passage at all life stages, or other potential impairment of beneficial uses of water. (Refer to 14 CCR § 923.11(k)(2)-(3) [943.11(k)(2)-(3), 963.11(k)(2)-(3)].)

(C) The provisions of Articles 12 [Article 11 for Northern District] that apply in watersheds with listed anadromous salmonids and in planning watersheds immediately upstream of, and contiguous to, any watershed with listed anadromous salmonids shall not apply to a plan that is subject to:

(1) A valid incidental take permit issued by DFG pursuant to Section 2081(b) of the Fish and Game Code that addresses anadromous salmonid protection; or

(2) A federal incidental take statement or incidental take permit that addresses anadromous salmonid protection, for which a consistency determination has been made pursuant to Section 2080.1 of the Fish and Game Code; or

(3) A valid natural community conservation plan that addresses anadromous salmonid protection approved by DFG under section 2835 of the Fish and Game Code; or

(4) A valid Habitat Conservation Plan (HCP) that addresses anadromous salmonid protection, approved under Section 10 of the federal Endangered Species Act of 1973; or

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(5) Project revisions, guidelines, or take avoidance measures pursuant to a memorandum of understanding or a planning agreement entered into between the plan submitter and DFG in preparation of obtaining a natural community conservation plan that addresses anadromous salmonid protection.

(ii) The following shall be provided in the plan for all constructed and reconstructed logging road watercourse crossings:

(1) Describe all constructed or reconstructed logging road watercourse crossings within the harvest area, as needed. ~~(2)~~

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Disclose the potential public safety impacts where crossing construction or reconstruction may affect public safety. (Refer to 14 CCR § 923.10(e) [943.10(e), 963.10(e)]).

(3) Disclose how diversions at logging road watercourse crossings will be prevented, including proposed method(s). (Refer to 14 CCR §§ 923.10(g) [943.10(g), 963.10(g)] and 923.11(g) [943.11(g), 963.11(g)]).

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(4) Include the analyses and specifications that demonstrate all permanent constructed and reconstructed logging road watercourse crossing structures installed within Class I watercourses, where fish are always or seasonally present or where fish habitat is restorable, will be designed to allow for upstream and downstream passage of fish or listed aquatic species during any life stage and for the natural

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1 movement of bedload. (Refer to 14 CCR § 923.11(i)-(j) [943.11(i)-(j),
2 963.11(i)-(j)]..)

3 (5) Specify the minimum diameter of the culvert and the
4 method(s) used to determine the culvert diameter where new culverts
5 are proposed for permanent installation at a logging road watercourse
6 crossing. (Refer to 14 CCR § 923.11(e) [943.11(e), 963.11(e)]..)

7 (6) State the range of required rock dimensions for rock used
8 in logging road watercourse crossings ~~proposed as~~ fords. (Refer to 14
9 CCR § 923.11(h) [943.11(h), 963.11(h)]..)

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10 (7) Identify protection measures needed to reduce sediment
11 delivery where evidence of soil erosion and significant sediment
12 discharge is present at a logging road watercourse crossing used for
13 timber operations. (Refer to 14 CCR § 923.16(d) [943.16(d),
14 963.16(d)]..)

15 (8) Identify how soil erosion and significant sediment discharge
16 will be prevented where it is not feasible to remove a logging road
17 watercourse crossing or its associated fill to the standards contained
18 in 14 CCR § 923.17 [943.17, 963.17]. (Refer to 14 CCR §§ 923.8(e)
19 [943.8(e), 963.8(e)] and 923.17(e) [943.17(e), 963.17(e)]..)

20 (9) Disclose and describe site conditions, and, to the extent
21 feasible, specify measures to be taken to address potential sediment
22 mobilization where a significant volume of sediment is stored upstream
23 from a logging road watercourse crossing that is proposed to be
24 removed. (Refer to 14 CCR §§ 923.13(g) [943.13(g), 963.13(g)] and
25 923.17(f) [943.17(f), 963.17(f)]..)

(10) In watersheds with listed anadromous salmonids, state how existing permanent culverts used for logging road watercourse crossings on Class I watercourses, where fish are always or seasonally present or where fish habitat is restorable, and where fish can move upstream of the crossing location, shall be brought up to the standards of 14 CCR § 923.11(c) [943.11(c), 963.11(c)].

(11) In addition to the requirements of 14 CCR § 923.11(k) [943.11(k), 963.11(k)], include the method of analysis and the design for logging road watercourse crossing protection.

[CAL FIRE OPTION DELETES ITEMS 2-11 AS FOLLOWS:]

Amend § 1051.1. Contents of Modified THP

A plan submitted under ~~section~~ 14 CCR § 1051 above shall contain all the provisions of 14 CCR § 1034 except the following: (o), (x)(6), (x)(7), (z), (cc), (dd), (ee), (ff), and (ii), and the RPF shall:

Amend § 1090.5 Contents of NTMP

(w) On a USGS quadrangle or equivalent topographical map of a scale not less than 2" to the mile, the following information shall be clearly provided. Additional maps may be required to show specific details, and may be planimetric. Color coding shall not be used. A legend shall be included indicating the meaning of the symbols used to depict operational features on maps. See the district rules for the appropriate minimum mapping acreages.

(1)-(3) [No change]

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Deleted: (2) Disclose the potential public safety impacts where crossing construction or reconstruction may affect public safety. (Refer to 14 CCR § 923.10(e) [943.10(e), 963.10(e)]).

(3) Disclose how diversions at logging road watercourse crossings will be avoided, including proposed method(s). (Refer to 14 CCR §§ 923.10(g) [943.10(g), 963.10(g)] and 923.11(g) [943.11(g), 963.11(g)]).

(4) Include the analyses and specifications that demonstrate all permanent constructed and reconstructed logging road watercourse crossing structures installed within Class I watercourses, where fish are always or seasonally present or where fish habitat is restorable, will be designed as needed, to allow for upstream and downstream passage of fish or listed aquatic species during any life stage and for the natural movement of bedload. (Refer to 14 CCR § 923.11(i)-(j) [943.11(i)-(j), 963.11(i)-(j)]).

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Deleted: (5) Specify the minimum diameter of the culvert and the method(s) used to determine the culvert diameter where new culverts are proposed for permanent installation at a logging road watercourse crossing. (Refer to 14 CCR § 923.11(e) [943.11(e), 963.11(e)]).

(6) State the range of required rock dimensions for rock used in logging road watercourse crossings utilizing fords. (Refer to 14 CCR § 923.11(h) [943.11(h), 963.11(h)]).

(7) Identify protection measures needed to reduce sediment delivery where evidence of soil erosion and significant sediment discharge is present at a logging road watercourse crossing used for timber...

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1 (4) Location of public roads within the ~~plan~~ harvest area, and
2 private roads appurtenant to the timber operations where such roads
3 are under the ownership or control of the timberland owner and are
4 contiguous with the ~~plan~~ harvest area, and classification of all
5 proposed and existing logging roads as permanent, seasonal, or
6 temporary roads.

7 (5)-14) [No change]

8 (x)-(ff) [No change]

9 ~~(gg) Where logging roads, logging road watercourse crossings, and~~
10 ~~associated landings in the logging area will be abandoned or~~
11 ~~deactivated, the methods for abandonment or deactivation shall be~~
12 ~~described.~~

13 ~~(hh)~~(gg) On a map complying with ~~subsection 14 CCR § 1090.6(*)~~
14 1090.5(w), the locations and classifications of logging roads, logging
15 road watercourse crossings, and landings to be abandoned or
16 deactivated shall be shown.

17 ~~(ii) [No change]~~ [Note: remaining lettering/numbering under §1090.5,
18 beginning with item (hh), will require revision.]

19
20 **Amend 1090.7 Notice of Timber Operations Content**

21 *******(n)** On a USGS quadrangle or equivalent map of a scale not less
22 than 2" to the mile, the following information pertinent to the Notice
23 of Operations shall be clearly provided. Additional maps may be
24 required to show specific details, and may be planimetric. Color
25 coding shall not be used. A legend shall be included indicating the

meaning of the symbols used to depict operational features on maps.
See the district rules for the appropriate minimum mapping acreages.

(1)-(3) [No change]

(4) Location of public roads within the Notice area, and private roads appurtenant to the timber operations where such roads are under the ownership or control of the timberland owner, and are contiguous with the Notice area, and classification of all proposed and existing logging roads as permanent, seasonal, or temporary roads.

(5)-(11) [No change]

Amend § 1092.09 PTHP Contents

(a) - (k) No change

(1) On a ~~titled USGS quadrangle or equivalent topographic map of a scale not less than 2" to the mile~~ map that is based upon a U. S. Geological Survey topographic quadrangle map, or equivalent, published at a scale of 1:24,000 or smaller, the information in subsections (1-5) (1)-(5)(A), (6)(A)-(6)(K), (7)(A)-(B), and (7-11) shall be clearly shown. On a topographic map at a scale of 1/2 inch equals 1 mile, or larger, the information in subsections (5)(B) and (7)(C) shall be clearly shown. Additional maps, which may be topographic or planimetric, may be used to provide the information required in other subsections or show specific details, and to improve map clarity. ~~The appurtenant roads referenced in subsection (5) may be shown on a map which may be planimetric with a scale as small as one half inch equals one mile.~~ Color coding shall not be used. A legend shall be included indicating the meaning of the symbols used to depict

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operational features on maps. See the district rules for the appropriate minimum mapping acreage.

(1)-(4) [No change]

(5) ~~Location of public roads within the PTMP, and private roads appurtenant to the timber operations where such roads are under the ownership or control of the timber owner, timberland owner or timber operator, and classification of all proposed and existing logging roads as permanent, seasonal, or temporary roads.~~ The following logging road- and landing-related features shall be shown on a map of the appropriate type and scale as described in subsection (1) above:

(A) Location of all private and public logging roads to be used for timber operations within the harvest area, including the classification of all proposed and existing logging roads as permanent, seasonal, temporary, deactivated or abandoned, or proposed for deactivation or abandonment, and those located in watercourses, lakes, WLPZs, marshes, wet meadows, or other wet areas and those proposed for abandonment or deactivation.

(B) Location of all private appurtenant roads. This shall include:

(i) Logging roads and landings located in watercourses, lakes, WLPZs, marshes, wet meadows, or other wet areas, other than at logging road watercourse crossings.

(ii) Logging roads and landings proposed for abandonment or deactivation.

(iii) Logging roads that provide access to rock pits and water drafting sites.

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1 (6) The following shall be mapped at the appropriate scale
2 required under subsection (1), whichever is applicable, for all
3 logging roads and landings to be constructed or to be reconstructed,
4 unless otherwise noted:

5 (A) Location of logging road grades greater than 15
6 percent for over 200 continuous feet or logging road grades greater
7 than 20 percent.

8 (B) Location of road failures on existing roads to be
9 reconstructed.

10 (C) Location of logging roads across or landings on
11 unstable areas (as identified by a certified engineering geologist),
12 or connected headwall swales.

13 (D) Location of logging roads or landings within Class I,
14 II, III, or IV watercourses or lakes, WLPZs, marshes, wet meadows, or
15 other wet areas other than at logging road watercourse crossings.

16 (E) Location of logging road and landing insloping, inside
17 ditch drainage, or crowning in excess of 300 lineal feet that drains
18 to a classified watercourse or lake.

19 (F) Location of landings that require substantial
20 excavation and landings in excess of one-quarter acre in size.

21 (G) Location of disposal sites on slopes greater than 40
22 percent or on active unstable areas for spoils generated during
23 logging road or landing construction or reconstruction.

24 (H) Location of logging roads and landings across slopes
25 greater than than 65 percent for 100 lineal feet or more.

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1 (I) Location of logging roads and landings across slopes
2 greater than 50 percent for 100 lineal feet or more within 100 feet of
3 the boundary of a WLPZ that drains toward the zoned watercourse or
4 lake.

5 (J) The location of ~~significant existing or potential~~
6 erosion sites on logging roads and landings that will be treated.

7 (K) ~~Location of existing and~~ proposed water drafting
8 locations.

9 (L) Location of any other area(s) where non-standard
10 practices on logging roads are proposed.

11 ~~(7)(6) — Location of proposed and existing landings in the~~
12 ~~watercourse and lake protection zone, and landings outside the zone~~
13 ~~that are greater than 1/4 acre in size or whose construction involves~~
14 ~~substantial excavation. The following logging road watercourse~~
15 ~~crossing-related items shall be shown on a map of the appropriate type~~
16 ~~and scale as described in subsection (1) above:~~

17 (A) Location of all existing logging road watercourse
18 crossings within the harvest area, including those proposed for
19 abandonment or deactivation. This requirement may be met by depicting
20 the intersection of a logging road and a watercourse.

21 (B) Location of all logging road watercourse crossings ~~to~~
22 ~~be constructed or to be reconstructed~~ within the harvest area, including
23 those proposed for abandonment or deactivation.

24 (C) For logging road watercourse crossings ~~located on~~
25 ~~private appurtenant roads:~~

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the harvest area but are
under the ownership or
control of the owner of the
timberland where timber is
proposed for harvest and
that are between the harvest
area and the first public
road to be used for log
hauling

1 (i) Logging road watercourse crossings to be
2 constructed or to be reconstructed.

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for log hauling

3 (ii) Existing logging road watercourse crossings to be
4 abandoned or deactivated.

5 Existing logging road watercourse crossings may be shown by
6 depicting the intersection of a logging road and a watercourse.

7 ~~(8) (7) Road failures on existing roads to be reconstructed.~~

8 ~~(8)~~ Location of all tractor road watercourse crossings of
9 classified watercourses, including class III watercourses where the
10 watercourse crossings and equipment operations within the ELZ have not been
11 flagged or marked on the ground prior to the pre-harvest inspection ~~without~~
12 ~~flowing water during timber operations at that crossing.~~

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crossings of

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time of use

13 (9) Location of erosion hazard rating areas, if more than one
14 rating exists.

15 (10) Location of watercourses and lakes with Class I, II, III or
16 IV waters.

17 (11) Location of known unstable areas or slides (as identified
18 by a certified engineering geologist).

19 (12) Location of unique areas.

20
21 **Amend § 1093.2. Contents of Road Management Plan.**

22 The Road Management Plan shall, at a minimum, contain the following
23 information:*****

24 *******(3)** The operational element shall, at a minimum, address
25 proposed road management operations, stated time frames for actions,
clear lines of responsibility for implementation, and schedules to be

implemented in a plan, including:

(A) A road construction, reconstruction and use component to ensure that operations occur on a stable operating surface, consistent with 14 CCR 923.6. ~~that does not produce sediment in quantities that may cause a visible increase in turbidity of downstream waters in receiving Class I, II, III or IV waters or would violate Water Quality Requirements.~~ This component shall include, at a minimum, restrictions for wet weather operations, surfacing objectives, and provisions for water drafting.*****

Amend § 1104.1. Conversion Exemptions.

Timber operations conducted under this subsection shall be exempt from conversion permit and timber harvesting plan requirements of this article*****

*******(E)** Timber operations may be conducted during the winter period. Tractor operations in the winter period are allowed under any of the following conditions:

1. During dry, rainless periods but shall not be conducted on saturated soil conditions that may produce sediment in quantities that violate Water Quality Requirements. ~~sediment in quantities sufficient to cause a visible increase in turbidity of downstream waters in receiving Class I, II, III or IV waters or that violate Water Quality Requirements.~~ Erosion control structures shall be installed on all constructed skid trails and tractor roads prior to sunset if the National Weather Service forecast is a "chance" (30% or more) of rain within the next 24 hours.*****

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(5) Specify the minimum diameter of the culvert and the method(s) used to determine the culvert diameter where new culverts are proposed for permanent installation at a logging road watercourse crossing. (Refer to 14 CCR § 923.11(e) [943.11(e), 963.11(e)].)

(6) State the range of required rock dimensions for rock used in logging road watercourse crossings utilizing fords. (Refer to 14 CCR § 923.11(h) [943.11(h), 963.11(h)].)

(7) Identify protection measures needed to reduce sediment delivery where evidence of soil erosion and significant sediment discharge is present at a logging road watercourse crossing used for timber operations. (Refer to 14 CCR § 923.16(d) [943.16(d), 963.16(d)].)

(8) Identify how soil erosion and significant sediment discharge will be prevented where it is not feasible to remove a logging road watercourse crossing or its associated fill to the standards contained in 14 CCR § 923.17 [943.17, 963.17]. (Refer to 14 CCR §§ 923.8(e) [943.8(e), 963.8(e)] and 923.17(e) [943.17(e), 963.17(e)].)

(9) Disclose and describe site conditions, and, to the extent feasible, specify measures to be taken to address potential sediment mobilization where a significant volume of sediment is stored upstream from a logging road watercourse crossing that is proposed to be removed. (Refer to 14 CCR §§

923.13(g) [943.13(g), 963.13(g)] and 923.17(f) [943.17(f), 963.17(f)].)

(10) In watersheds with listed anadromous salmonids, state how existing permanent culverts used for logging road watercourse crossings on Class I watercourses, where fish are always or seasonally present or where fish habitat is restorable, and where fish can move upstream of the crossing location, shall be brought up to the standards of 14 CCR § 923.11(c) [943.11(c), 963.11(c)].

(11) In addition to the requirements of 14 CCR § 923.11(k) [943.11(k), 963.11(k)], include the method of analysis and the design for logging road watercourse crossing protection.